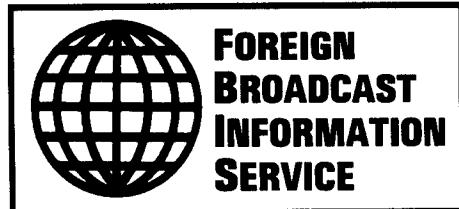


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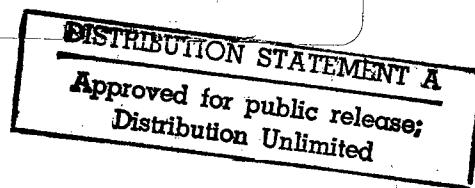


# ***JPRS Report***

## **Soviet Union**

### ***EKO: ECONOMICS & ORGANIZATION OF INDUSTRIAL PRODUCTION***

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## SPECIAL NOTICE

Effective 1 June 1987 JPRS reports will have a new cover design and color, and some reports will have a different title and format. Some of the color changes may be implemented earlier if existing supplies of stock are depleted.

The new cover colors will be as follows:

CHINA.....	aqua
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SCIENCE & TECHNOLOGY.....	gray
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The USSR REPORT: POLITICAL AND SOCIOLOGICAL AFFAIRS will be titled SOVIET UNION/POLITICAL AFFAIRS (UPA).

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THE WORKING CLASS & THE CONTEMPORARY WORLD (UNC)  
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9 JUNE 1987

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## SOVIET UNION

EKO: ECONOMICS & ORGANIZATION OF  
INDUSTRIAL PRODUCTION

[Except where indicated otherwise in the table of contents the following is a complete translation of the Russian-language monthly journal EKONOMIKA I ORGANIZATSIIA PROMYSHLENNOGO PROIZVODSTVA published in Novosibirsk.]

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## PRACTICE OF DISTRIBUTUTING EARNINGS EXAMINED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in  
Russian No 3, Mar 87 pp 3-21

[Article by V. M. Rutgayser, doctor of economic sciences, and Yu. Ye. Shevyakhov, candidate of economic sciences, Scientific Research Economics Institute under the USSR Gosplan (Moscow): "Distribution According to Labor" --a discussion; first paragraph EKO introduction]

[Text] Until recently improvement of the distribution policy was considered mainly from the standpoint of solving crucial problems related to improving public well-being. Now it is necessary to significantly increase its influence on the intensification of production. Because of this we will have to solve many problems. We shall discuss the most important from our point of view.

### Justification of the Structure of Incomes of the Population

The difficulty here is that through the distribution policy the society should create more favorable conditions for rapid improvement of well-being and for strengthening of the fundamental principle of socialism: "From each according to his abilities, to each according to his labor." Herein lies the essence of the social justice of our social system. Various forms of distribution have different possibilities of providing incentive. Wages undoubtedly have the greatest. Other sources of income--payments from public consumption funds, revenues from the financial system and incomes from the private subsidiary farms--either have no influence at all on increasing the effectiveness of labor and public production or have a mediated influence. Therefore it far from always increases when they increase.

Why are we returning today to a problem which seemed to have been finally resolved during the 1950's and 1960's? At that time, in economic science there was a firmly rooted viewpoint that the main kinds of income of the population were wages, payments and benefits from public consumption funds, revenues from private subsidiary farms, and payments from the financial system; and the main tendencies for change in the existing structure of income were the more rapid growth of the public consumption funds and a reduction of the proportion of incomes from private subsidiary farming.

There is now a fairly widespread opinion that the increased imbalance between supply and demand, the greater equalizing in wages, the reduction of material incentives and other negative phenomena noted during the past five-year plans are to a significant degree linked to the violation of the necessary correlations between the payment for labor and its productivity. These assertions are not without meaning (we shall try to confirm this below).

At the present time considerably less attention is being devoted to the fact that during the corresponding period there was an appreciable change in the macrostructure of the incomes of the population. In spite of the growth of wages, their proportion in the overall sum of distributed goods of life decreased. Thus, according to our estimates, for every ruble of wages the amounts from public consumption funds and subsidies to prices in 1965 were 46 kopecks, 1970--51, 1975--56, 1980--58, and 1984--69 kopecks. In the structure of the incomes of the population there has been a sharp increase in the proportion of funds for consumption that are not directly connected to the labor contribution. As a result of the demand to increase intensification of production, the possibilities of realizing the principle of distribution according to labor have become increasingly narrow. But the changes in the relationships between individual forms and methods of distribution have been poorly studied up to this point, they have not been generalized by economic science, and they are not sufficiently taken into account when plans are drawn up.

But the distribution policy will provide for increased material incentives only if the members of the society receive most of the consumer goods depending on the results of their labor. In this connection it is necessary to study the possibilities of more extensive utilization of incomes from labor when solving social problems and to determine conditions and restrictions under which these problems can be resolved through payment for labor (this is either economically inexpedient or it entails serious negative social consequences).

During the past 15-20 years public consumption funds have increased more rapidly than have funds for payment for labor. As compared to 1970 they have increased by a factor of 2.3 while the wage fund (including wages of kolkhoz workers) has increased by a factor of 2. But this difference, in our opinion, is not the result of the effect of an "objective law." It is caused primarily by the change in the concrete needs of the population. One part of them (mainly for material goods) is satisfied basically through wages, while another (for education, public health and culture) is satisfied through public consumption funds. The basic changes in consumption recently seem to have been associated with the more rapid (as compared to material goods) satisfaction of needs for services, a large part of which are offered to the population free of charge. Thus the more rapid growth of the public consumption funds only reflects changes in the needs and in consumption, that is, it is by nature derived.

Moreover, the fact that public consumption funds have grown more rapidly than wages was also brought about by the circumstance that the contingents of people in need of money distributed from public consumption funds increased somewhat more rapidly than the number of people employed in the public

economy. During the past 15 years the USSR population has increased by 15.3 percent, workers, employees and kolkhoz workers (by 11.2 percent), and pensioners--by 23.0 percent. But this cannot be regarded as an objectively predictable condition of social development either. The relationships between the numbers of population in various categories can change, and in various directions.

And so there is no mandatory requirement that public consumption funds increase more rapidly than wages, and the ratio between them is determined taking into account the concrete historical conditions that determine the entire system of distribution relations. From our standpoint in the future, because of the improvement of material well-being of the population, an ever larger part of the public consumption funds should be subordinated to the principle of distribution according to labor.

But it should be emphasized that the limits of the interchangeability of wages and the public consumption funds are extremely narrow since a considerable part of the increase in public consumption funds should be spent on expanding them in keeping with natural factors. This is mainly as a result of the increased contingents of recipients of payments and benefits from this source and also the higher level of many kinds of these payments (stipends for temporary disability, newly assigned pensions and so forth) in connection with the increase in wages. According to the calculations of G. S. Sarkysyan, public consumption funds increased as a result of natural factors in 1961-1965 by 93.0 percent, 1966-1970--93.2 percent, 1971-1975--81.3 percent, 1976-1980--93.3 percent, and in 1981-1985, according to our estimates--by more than 80 percent. (Footnote 1) From this it is clear that the possibilities of redistributing sources for increasing the wage fund and public consumption funds are limited by the insignificant proportion of increase in public consumption funds that remains after withholding the unavoidable expenditures for their natural growth.

#### Free of Charge or for Money?

True, there exists another method of transforming the ratio between the wage fund and the public consumption funds--providing for a predominance of paid distribution of consumer goods over nonpaid. The considerable expansion of nonpaid forms of distribution in the past formed a kind of protective function with respect to individual categories and segments of the population by providing for equal conditions for the spiritual and cultural development of all members of the society. Nonpaid services through public consumption funds increases the budget of the Soviet family by 10-15 percent. The reinforcement of the social homogeneity of the society and the ever-rising level of material well-being makes this kind of protection less necessary. There is no doubt that this is a complicated social problem. We need a comprehensive careful analysis of the conditions for nonpaid distribution of various goods. A reduction of the nonpaid distribution of individual goods, as a rule, should be accompanied by a mandatory compensation for the changes taking place as a result of this in the incomes of the corresponding categories of the population.

At present the level of development of paid services is one-half to two-fifths that of nonpaid services, and this is clearly inadequate for complete satisfaction of the consumer demand. In order to provide for the achievement of a rational consumer budget, it is necessary, according to our calculations, to increase the volume of paid services per capita by a factor of 3-4 while also improving their quality. Shortcomings in the economic mechanism and the imperfect methods of planned control of the development of the sphere of paid services as well as the weak influence of consumers on the development give rise to inadequate interest on the part of the corresponding ministries, administrations, enterprises and institutions in searching for progressive new forms of service and crowding out the services of individuals who are operating illegally.

As was noted at the June (1986) Plenum of the CPSU Central Committee, the key to success lies in accelerated development of the services industry, above all of specialized ministries and departments. At the same time it will be necessary to develop an effective system whereby enterprises of all ministries and departments, regardless of their basic activity, can render services to the population. Under the current five-year plan, basically for the first time, we have taken a comprehensive national economic approach to developing the sphere of paid services. The increase in paid services is to be appreciably greater than that of the production and sale of consumer goods.

As a result of the development of paid services it is possible to improve the ratio between expenditures on the purchase of goods and the payment for services. During the past 10 years the proportion of paid services in the structure of the overall consumer expenditures has remained stable at the level of 10 percent (in the European CEMA countries it is constantly increasing). As a result of the inadequate level of development of the sphere of paid services, as the incomes of families increase they must spend their surplus monetary funds on purchasing consumer goods, thus increasing the pressure on commodity turnover.

In 1960 the proportions of paid and nonpaid services in the area of culture were equal, but in 1980 the proportion of paid services and the overall volume of services dropped to 20 percent. Thus we have one more branch for mainly nonpaid service which is supported with the help of subsidies from the state budget. In this case the subsidy does not expand the possibilities of access to cultural goods for the broad segments of the population at all, although this was the initial intention. What point is there in maintaining a subsidy for paid services of entertainment institutions when the demand for them exceeds the supply?

The higher level of material well-being makes it possible to increase the level of payment for passes to houses of recreation, tourist bases and so forth. In our opinion, healthy people should receive them, as a rule, at their own expense, but paid and preferential use of services of sanatoriums and preventive medicine facilities, of course, should be retained if there is a real need for taking the corresponding course of treatment. But now up to 20 percent of all passes are issued by trade union organizations free of charge, 60 percent of the recipients pay up to 30 percent of their value, and only 20 percent are sold at full value. The considerable cost of these passes

leads to a negligent attitude on the part of certain people who are enjoying this kind of recreation. There are increased numbers of cases in which people return late or make stops along the way. (Footnote 2) The higher level of payment for passes should undoubtedly be accompanied by an improvement in the quality of service for people who are involved in recreation and therapy.

Increasing the incentive function of distribution according to labor, in our opinion, requires including housing in the overall system of distribution of goods, with apartment rent being differentiated depending upon the quality of the apartments. This practically does not exist now, and it essentially performs the function not of paying for the corresponding services, but of imposing a tax whose amount is determined only by the amounts of dwelling space that are used. Of course it is not a simple matter to account quantitatively for all the differences in the consumer value of housing. One method that could be used here would be to use the results of exchanging housing in order to establish coefficients for measuring the overall quality of the apartments. (Footnote 3) There are other suggestions based on differentiated accounting for the consumer value of various elements of the apartment (dwelling space, hallways, covered courtyards and so forth). It would be good to raise the apartment rent in the state housing supply to the level of the analogous indicator in cooperatives, that is, according to our calculations, by a factor of 1.8-2. These figures differ from the currently fairly widespread ratings (by a factor of 4-5) which take into account expenditures on capital repair of the state housing supply as well. We think that at least in the near future there is some point in retaining the existing policy for financing this.

Payment for housing services in the state supply at the cooperative rate is a socially justified demand. Indeed, why should there be two different rates for the same services? Moreover, subsidies for maintaining the state housing supply remain to a greater degree in families with higher incomes since they, as a rule, also have a higher average per capita level of provision of housing. It turns out that the existing policy for distributing this vitally important commodity exacerbates the inequalities among individual groups of the population. And this stands in contradiction to the fundamental functions of public consumption funds.

#### Subsidies to Prices and Social Justice

In the macrostructure of the incomes of the population, in addition to payment according to labor and public consumption funds, there are also other forms of distribution:

incomes from private subsidiary farming, individual peer care, work at home, work under contract, handicrafts, and interest on savings in banks. These and the distributing relations associated with them, although they are derived from distribution according to labor, are still not directly related to it;

subsidies from the state budget to retail prices for goods and paid services (these have already been discussed). They are linked to the public consumption funds (although they are not included in them) and are distributed according to the same principles.

Under the 11th Five-Year Plan alone, the volume of subsidies increased by a factor of more than 2 and their amounts increased more than did the incomes of the population from private subsidiary farming. An ever increasing part of the resources for consumption does not depend directly on the labor contribution. At the same time the effectiveness of their utilization is decreasing since subsidies to prices do not have a direct effect either in terms of the contingents with various incomes or in terms of the populations of various regions.

Subsidies for food products in fact only increase the differentiation of the levels of consumption since they are significantly more appreciable in families with higher average per capita incomes. The situation is similar, we repeat, with subsidies for maintaining the state housing supply. Only subsidies for goods in the children's assortment and medications retain the special social purpose and are justified from the standpoint of the effectiveness of the distribution policy.

The constantly growing volume of subsidies for consumer goods and the return from them should be compared to the complex of social tasks and the volume of resources expended on carrying them out. Under the 12th Five-Year Plan the volume of subsidies greatly exceeds the funds allotted for new centralized measures in the area of improving well-being.

It should be especially emphasized that this source of income for the population is actually not taken into account when developing social programs for five-year plans and it is practically not reflected in the existing system of indicators of well-being either (with the exception of subsidies for maintaining the state housing supply). Thus a considerable part of the incomes of the population are formed outside the frameworks of the planned management of distribution processes. If this situation continues in the future, in our opinion, it will be difficult to raise the standard of living or to carry out the objectively necessary differentiation of incomes of the population, and the effect of the principle of distribution according to labor will be narrowed.

Closely linked to the problem of subsidies to retail prices is the problem of changing kolkhozes and sovkhozes over to self-supporting production. "The current price policy is such," noted V. I. Kalashnikov, first secretary of the Volgograd CPSU Obkom, at the 27th Party Congress, "that even those kolkhozes and sovkhozes that are coping with their planned assignments are unable to work so that they support themselves. Retail prices do not cover expenditures on the production of food products." (Footnote 4) In his speech he emphasized an idea with which we fully agree: economically substantiated retail prices make it possible to reduce the disparity between supply and demand and to abolish coupons for meat, oil and sausage items. Of course then it is necessary to use other mechanisms of the social policy, particularly those that protect the interests of people with fixed incomes. Their standard of living should not suffer from measures for improving retail prices. Compensations are possible here through funds that are now being allotted for subsidies.

As was noted at the 27th CPSU Congress, it will be necessary to carry out a planned restructuring of the price system as a unified whole in the interests of arranging for effective cost accounting and in keeping with the tasks of increasing the real incomes of the population; and to give prices greater flexibility and coordinate them with the level of consumer qualities of goods, the effectiveness of items, and the degree of balance between production and public needs and the demand of the population.

#### Wages--Payment for Labor or Compensation for Its Conditions?

A reduction of the proportion of incomes obtained by the population through distribution according to labor reduces the influence of the distribution policy on intensification. Of course, in and of itself an increase (or reduction) of the wage fund is still not a guarantee of greater (or lesser) motivation of participants in public production to increase the success rate of its labor. It is important for the system of labor to orient the workers toward intensive forms of economic activity. The stimulating influence of distribution according to labor is linked not to the absolute amount of the supply of income from labor, but mainly to the differentiation in payment for labor. In our opinion, we have not yet managed to profoundly substantiate these differences (depending on the quantity and quality of labor), although active research is being done in this area.

Let us note one more important circumstance which must be kept in mind when analyzing changes in the structure of the incomes of the population and evaluating their stimulating influence. Over the past years in the wage fund there has been a gradual increase in the proportion of payments that are not directly linked to the results of labor but compensate for unfavorable working conditions and help to retain work force in particular work places, occupations, branches or territories. An increase in the proportion of these payments shows that an ever increasing proportion of wages essentially stimulate extensive forms of business.

For example, the remunerations in the wage fund for length of service have increased several times over and it is intended for them to increase further. The proportion of the wage fund used for payments for regional coefficients and increments for work in regions of the Far North and locations on an equal footing are also increasing. It is known that regional coefficients are based on the need to make reimbursement for differences in the levels and structures of consumption in various regions of the country. But one can clearly see the desire of the ministries and departments to turn these elements of wages into instruments for attracting and retaining work force in their own branches. This means that to a certain extent wages are replacing other ways (for instance, accelerated development of the social infrastructure) of solving urgent problems facing the society. The same thing can be said about payments that compensate for harmful and unfavorable working conditions, and also that part of the wages that is expended for retaining workers in work places with less skilled and unprestigious labor. These measures create only the appearance of a relative well-being and "preserve" extensive forms of labor activity in broad segments of public production.

## We Receive More Than We Earn

A significant proportion of the wage fund goes for the so-called unearned wages, that is, "unearned income." This usually means income obtained outside the law (this term is encountered most frequently in legal practice). But another understanding of this category has more content: unearned incomes include all incomes obtained as a result of violations not only of legal norms but also of economic laws. In order to avoid confusion with the ever greater interpretation of unearned incomes, it is apparently necessary to have another name, for instance, "incomes that are not equivalent to labor expenditures."

The framework for the effect of economic laws is undoubtedly less clearly defined than legal norms are. Therefore economists argue about the degree to which various kinds of incomes can be considered unearned. Here indeed one finds many more problems that require in-depth research. But there is no question that there are incomes whose amounts exceed the actual labor contribution of the worker. Therefore in the political report of the CPSU Central Committee to the 27th Party Congress they note the inadmissibility of the so-called "perquisites," payment of unearned money, issuance of undeserved bonuses, and the establishment of the "guaranteed" wage rates that are not related to the labor contribution.

The forms of payment of undeserved earnings vary and in many cases are actually sanctioned by the existing system of wages at the level of the national economy, the ministry, the enterprise and the individual worker. At the level of the national economy this divergence is related primarily to the fact that when production indicators are changed the corresponding wage adjustments are not made promptly and there is no effective control over the fulfillment of the plan. As a result in practically every five-year plan the assignments for increasing wages have been fulfilled, but the most important production indicators (rates of increase of the national income, the consumption fund, labor productivity, industrial and agricultural output) have not corresponded to the initial planned levels.

We shall succeed in maintaining the necessary ratios between the growth of wages and the results of production at the national economic level only when we have created a system that strictly links the amounts of wages to the success rate of the work and there is a sharp increase in the responsibility for providing for the given ratios between the growth of wages and production indicators. The existing practice of planning the wage fund is oriented mainly toward the number of workers. It is presumed that the amount of this fund is linked to production indicators since a number of workers is calculated depending on the volume of production and its structure (on the basis of the corresponding norms and normatives). In fact this link is not strong enough.

In the first place, a great deal depends on the degree of substantiation of the need for work force. Various factors motivate managers to increase the requested number of workers. In particular, with more workers there will be a larger wage fund and deductions into the incentive funds will increase; the fulfillment of the plan is made easier even when there are interruptions in material and technical supply, when the work is irregular or when workers are

taken away for "patronage duties." Because of the surplus workers it is easy to conceal shortcomings in the work of the managers themselves. As a result, in recent years the numbers of workers and employees, which are determined by totaling the plans of the enterprises, have exceeded the numbers established by the national economic plan by 2.4-2.7 million.

In the second place, even if the number of personnel was initially determined correctly, the actual fulfillment of the planned assignments for increasing production can turn out to be less for various reasons. In such cases the business executives frequently have the production plan adjusted, but nobody is interested and nobody checks to make sure that the planned wage fund is reduced at the same time. Most frequently it remains the same if the normative method is supplied for planning wages. This situation is possible because planning the wage fund and planning production indicators are coordinated not directly, but indirectly--through the numbers of workers. As a result, even at the national economic level when the plan is being formed and subsequently when it is being fulfilled conditions develop whereby the payment for labor significantly exceeds its results.

At lower levels of management the amount of payment for labor exceeds the real labor expenditures, particularly because of shortcomings in norm setting for labor. Norms that have been artificially reduced and have not been revised for many years make it possible to unjustifiably increase wages for individual workers. This increase seems legitimate at first glance, since the output norms are being overfulfilled. There are no norms at all for approximately one-fourth of the time-rate workers, and experimental statistical norms are used for more than 2 million piece-rate workers. The worst situation of all is found in norm setting for the labor of auxiliary workers whose share in individual branches of industry exceeds 50 percent. According to data of the Scientific Research Institute of Labor, about 30 percent of the norms that are in effect have not been revised for many years. Consequently the norms that are in effect do not fully reflect the level of labor productivity that has been reached and thus surplus wages are being paid. Under the 11th Five-Year Plan piece-rate workers in industry overfulfilled norms by approximately 25 percent and in construction--by one-third. At the same time many industrial and construction ministries failed to fulfill the plans for production volume, the growth of labor productivity and the startup of construction projects. This places the interests of individual workers at odds with those of the enterprise as a whole and is associated with the fact that the "direction of the norms does not coincide with the direction of the plan. The norm frequently serves only as a means for regulating the overall amount of the wages irrespective of its results." (Footnote 5)

The unsatisfactory condition of norm setting goes hand in hand with the losses of working time with the simultaneous use of overtime work. And although now, when the fight to strengthen labor, production and state discipline is being stepped up, these losses have decreased, they are still fairly great. Losses of working time at the beginning of the quarter or months are compensated for to a significant degree by overtime work and work on days off. Yet, as we know, the payment for overtime work is twice the amount paid for normal working time.

## Wages and "Payment for Nothing"

The examples that have been given show that payment for labor is greater than its results. But in recent years there has been a fairly widespread practice of paying wages without any connection to the work that has been done at all. We are speaking about paying for the labor of people who are sent for "patronage assistance" to agricultural jobs, fruit and vegetable bases, construction sites and for the building up of the territory. According to data of the USSR Central Statistical Administration, an average of 1.5 million people a year are now being taken away just for agricultural work. The majority of them receive their wages from the place of their basic work, although they are not producing the corresponding products. The labor productivity of these workers is, as a rule, much lower in their "second" jobs. Moreover, this labor is either paid for by them or its results are credited to the kolkhozes and sovkhozes. A simple calculation shows that just as a result of unregulated economic relations, in "patronage assistance" there is a surplus of monetary earnings of no less than 2-3 billion rubles a year.

Similar phenomena are also widespread in the interrelations among individual enterprises and organizations that are introducing a kind of "self-service principle." Unfortunately, frequently the client enterprise receives the necessary product only if it sends its own workers to work at the supply enterprise. They are paid wages at their original place of work and the supply enterprise where they are sent receives bonuses for the fulfillment of the plan by workers from other enterprises, and the overall sum of monetary incomes significantly exceeds the results that are achieved.

As a result of such shortcomings in the system of distribution according to labor that is in effect, during the past 15 years the wage fund for workers and employees (including payments from the material incentive fund) established in the plans for economic and social development of the USSR has been regularly exceeded. Even in comparison to planned indicators the overall sum of this difference is fairly high. But if it is compared with the amount of wages that should be paid if technically substantiated labor norms were applied and the results of production were accounted for precisely, this difference would increase significantly.

It is necessary to eliminate all forms of payment for the labor of those workers who are not in their work places and are employed in patronage work, who are on temporary duty at supply enterprises, or are sent to work on the upkeep of the territory, construction sites and so forth. It would be ideal if their labor were paid for by the enterprises and organizations using the work force. If these expenditures are reflected in the production cost of the products and affect the evaluation of the activity of these enterprises, they would likely take a different attitude toward this kind of enlistment of more workers. For example, city residents can participate in agricultural work under conditions of free hire with payment in money and agricultural products. Certain republics already use such a form. The farms take the workers to the place of work and back to the city and, if necessary, they ship the fruits and vegetables that have been received in payment for the labor. As practice has shown, this way labor productivity is much higher than with "patronage assistance" since the payment is strictly linked to the results of the labor.

In addition to overpayments, which have already been discussed and which are "legalized" within the framework of the existing legislation, illegal payments of wages and bonuses are widespread (not for real production results but for those which exist only in the reports and are the result of writeups). We have in mind two kinds of overpayment.

The first involves falsely increasing volumes of work in a specific work place. This is possible under conditions of poor organization of labor, weak control and accounting for the results of production and shortcomings in the system of wages which do not make it possible to provide for a particular level of earnings for workers by other means. In turn, weak control and low demands on the part of managers are frequently caused by the fact that such illegal overpayments and the fictional increases in work volumes that are inevitable in these cases compensate workers for losses from poor labor organization and, consequently, cover up shortcomings in the work of the production itself. Such a practice has negative economic and social consequences. The socialist principle of distribution according to labor is discredited and the labor collectives develop a consumer attitude toward the state which they think is "obligated" to provide for a certain level of earnings regardless of the quantity or quality of the labor that is expended.

The second variety of overpayment is bonuses for fictional fulfillment of the plan. Submitting deliberately distorted report data concerning the fulfillment of plans is regarded as a violation of criminal legislation and is punished, depending on the amount of the writeup, either by incarceration for a period of up to 3 years or by monetary fines. Here we are considering only unearned incomes that appear within the framework of the existing legal norms. But one should also note that for many workers the bonuses received as a result of these writeups are "legalized" incomes although the officials have committed criminal actions. The managers rarely bear administrative responsibility for such writeups, not to mention criminal responsibility, which, naturally, does not contribute to rapid elimination of such phenomena from economic practice.

It is difficult to make a quantitative determination of the scale of monetary overpayments associated with writeups. According to expert evaluation, they are most widespread in transportation and construction. In individual organizations writeups comprise 15-20 percent of the overall volume of work that is performed. And this means that in construction (if the corresponding estimates are extended to the entire branch) for work that is not done, according to our calculations, we take 3-4 billion rubles and in transportation--2-3 billion rubles.

Such are the basic forms of receipt of unearned income related to artificially increasing the evaluation of the actual expenditures of labor on the part of those who receive this income. In this case unearned incomes are formed in public production as a result of violation of the requirements of the law of distribution according to labor.

Among the main reasons for the widespread writeups, in our opinion, are the low level of organization of labor and production and shortcomings in material

and technical supply. Under these conditions it is possible to provide for a particular level of wages set in one production collective or another as "normal" or "acceptable" only as a result of artificially raising the volumes of work that are performed. Consequently, eliminating writeups involves improving the policy in production and creating production conditions whereby each person can achieve high earnings through honorable, conscientious labor. In addition to this it is necessary to increase the responsibility of officials for writeups and to take advantage of the possibilities of fighting against them that exist in legislation.

The receipt of incomes that are not equivalent to the labor contribution, of course, is not limited to relations between the population and the state. But it is from the state that the people employed in the public economy initially receive part of the income which, as a rule, is not backed by commodities and gives rise to and increases the imbalance between supply and demand and becomes one of the sources for subsequent (not always socially just) distribution of incomes. Thus it is necessary to begin with payment for the labor of workers employed in the public economy. For this is the major part of the incomes of the workers.

Shortcomings in the system of wages are largely linked to organization. This system is too regulated from above, most of the earnings are guaranteed centrally, and the concrete results of labor are not sufficiently taken into account. It is based on the idea that from the center it is possible to provide for equal payment for equal labor. In reality, the wage rate system guarantees the same payment for various labor efforts and not for the results. In our opinion, it is not at all necessary for similar work, say, of two lathe operators in neighboring plants to have the same remuneration; it should depend on the concrete output. Therefore it would be desirable to base the organization of wages not on a wage rate, which is indifferent to the results of labor, but on an overall wage fund for the final activity. Such an approach is simple and comprehensible to the workers. Hence there would be better results from the work and, consequently, higher earnings, particularly under the conditions of the brigade contract and the forms of payment that are being originated for workdays in agriculture, which successfully do without a wage rate system.

Contractual payment for labor, which is spreading actively, for example, in consumer services in the Estonian SSR has proved to be good. They determine beforehand the part of the revenue from services rendered to the population that the consumer service enterprise must turn over to the state. The rest of the money is a variable wage fund and is distributed according to the coefficient of labor participation of each worker. Herein lies a powerful stimulus for high-quality work. The labor productivity of the workers who have been changed over to the contractual form of payment is approximately 30 percent higher than the average for the branch. Enterprises that previously operated at a loss, as a rule, become profitable under these conditions.

The new approaches to solving essential and complex problems that are being generated in the sphere of distribution require a revision of the role and position of the wage rate system in the regulation of earnings. An extremely large socioeconomic measure in the area of wages under the current five-year

plan is the introduction of new wage rates and salaries that are increased by an average of 25-30 percent for workers in the sphere of material production. It is typical that this measure is to be carried out primarily using the enterprises' internal sources.

#### FOOTNOTES

1. Sarkisyan, G. S., "Narodnoye blagosostoyaniye v SSSR" [Public Well-Being in the USSR], Moscow, "Ekonomika", 1983, p 131.
2. Similar facts are being reported by the central newspapers. See, for example: Samoylov, Yu., "A Mistake Under the Table," SOVETSKAYA ROSSIYA, 14 May 1986.
3. IZVESTIYA SO AN SSSR. SERIYA "EKONOMIKA I PRIKLADNAYA SOTSILOGIYA, 1985, Issue 1, p 58.
4. PRAVDA, 2 March 1986.
5. Popov, G. Kh., "Effektivnoye upravleniye" [Effective Management], Moscow, "Ekonomika", 1985, pp 87-88.

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## CHANGES IN SPECIALIZATION, COOPERATION DESCRIBED

Novosibirsk EKONOMIKA I ORGANIZATSIIA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 22-38

[Article by Academician A. N. Yefimov (Moscow): "Specialization and Cooperation in the Modern Stage"]

[Text] Specialization, cooperation and concentration of production acquire, one might boldly state, primary significance in light of the strategic concept approved by the 27th CPSU Congress of changing over to an economy of the highest organization and effectiveness and technically reorganizing the national economy on the basis of a sharp acceleration of scientific and technical progress and a radical restructuring of the system of management.

Intensification entails an increase in the unit capacities of equipment (within economically justified limits), an expansion of large-series and flow line production, extensive introduction of systems of machines and continuous technologies, flexible adjustable productions, automated planning and automated lines, equipment with built-in microprocessor devices, multi-operational machine tools with numerical program control, robot, rotary and rotary-conveyor complexes and other kinds of principally new technical equipment. All this objectively deepens social division of labor which K. Marx named as the category "of all categories of the political economics."

[Footnote 1]

### A Bit of Theory

Division of labor, as it develops from simple and general forms to more complex and fragmented ones, first of all expresses the organizational-substantial structure of the production of the social product among the various branches and subbranches, the proportion of distribution of means of production and labor among the various kinds of work and within the frameworks of individual enterprises. Its economic role is manifested in the fact that on the scale of the society there are differentiation and specialization of branches of the economy and concentration of material and labor resources in structural units in order to increase the effectiveness of public production. Through this mechanism social division of labor gives an impetus to improvement of production structures according to the changes and the needs for quantity and quality of specific products.

Concentration of production, by enlarging the economic unit, accelerates the process of collectivization of production--through reconstruction of the given production or expansion of the initial organizational and economic unit through combining several independent structural subdivisions. One should single out such forms of concentration as the aggregate form, whereby the unit capacity of equipment increases and production-technical concentration, wherein there is an increase in the quantity of installed technological equipment and mechanized and automated flow lines. From the standpoint of organization of production within the primary economic units one can distinguish the concentration of various productions at enterprises of a universal type, the concentration of the output of a single kind of product at specialized enterprises, and the concentration of interconnected productions within the framework of an enterprise-combine.

With the development of processes of concentration there is an essential transformation of the implements of labor, technology, the composition of the work force and the organization of production. Here one should recall the economic distinctions between concentration of production resources and the output of products. The former by itself still does not lead to concentration of the production of items, which can take place extensively. Today we need to search for intensive paths to concentration whereby major attention is devoted to the application of new, highly effective technical equipment.

Variants of concentration and specialization are derived from the totality of scientific-technical and socioeconomic factors. Directly related to the process of improving the material and technical base, concentration and specialization are dynamic. V. I. Lenin noted that specialization "by its very essence is infinite--just as the development of technical equipment is." (Footnote 2) But this dependency is far from always simple. Thus the realization of scientific and technical achievements which is oriented toward increasing the effectiveness of means of production and live labor leads both to a consolidation of production and an increase in sizes of the economic units, on the one hand, and to a differentiation of production and a deepening of specialization in all its forms, which makes it possible and expedient to create medium-sized and small productions with clearly expressed narrow profiles and the proper technical equipment, on the other. As experience shows, small but technically well-equipped enterprises can rearrange production more rapidly, satisfy the needs for unit and small-series products more efficiently, and utilize free labor resources better. Consolidation of production thus requires an efficient combination of enterprises of various sizes.

The dependency between the forms of social organization of production (above all concentration and specialization) and the scientific level can be determined only within the framework of one social structure or another. Under the influence of the productive forces and production relations inherent in the given system, concentration and specialization of production undergo an evolution: their methods, spheres of distribution and socioeconomic consequences change. In our day the economy is increasingly acquiring a new image of closely interacting large national economic complex and individual branches and units of the economy are becoming integrated.

The influence of production relations on the development of productive forces is realized through a certain degree through concentration and specialization, as though they expressed the logic of the social form of production. This specific role of theirs, which links the units of two constituent parts of the means of production is constantly reflected in many aspects of this society's socioeconomic progress.

Certain forms of organization of production correspond to various stages in the development of productive forces. The structure of the economy develops because of specialization and concentration and the basic economic unit is singled out.

Under socialism various forms of social combination of the entire reproduction process of objects of planned organization. Organizational structures are improved not through a simple merging or differentiation of objects, but by means of a comprehensive restructuring of the forms and methods and economic mechanisms of the activity of all levels of management both along the vertical and along the horizontal. At the present time in keeping with decisions of the 27th Party Congress work in this area is being done an ever larger scale.

The deepening of social division of labor inevitably gives impetus to the appearance of integration processes: several units of the unified technological chain are merged organizationally and economically into one whole--the production or scientific-production association. Right after this point when these are being formed the problem of overcoming departmental barriers is resolved very superficially although the need for such a solution is insistently dictated by the requirements of scientific and technical progress, specialization and concentration of production. As a result of this, in spite of the potential advantages of associations, the results of their activity turn out to be worse than those of unintegrated enterprises. Under the 11th Five-Year Plan labor productivity in production and scientific production associations was approximately 96 percent of the average for industry (calculated in terms of the volume of product sales). It is extremely important to strengthen the interbranch approach to the main kinds of specialization, especially the most progressive forms--specialization in parts and technological specialization.

With the development of specialization in parts and components in the process of manufacturing products, the production of individual mass-produced parts and assembly units of aggregates is singled out. With the strengthening of the process of standardization and unification of products an efficient, economically advantageous system of cooperation develops between assembly (head) enterprises and associated enterprises.

The economic effectiveness of technological specialization is manifested first and foremost in the increase in labor productivity, the reduction of the production cost of products and the improvement of quality as well as efficient utilization of means of production, and this is related both to concentration of the production of homogeneous products and to the effectiveness of the consistent process of division of labor right down to the work place. Moreover, new phenomena appear. In particular, specialization

should provide for the application of resource-saving technology (reduced-waste, reduced-operation and reduced-stage), which is directly reflected in the nature of the process of specialization itself.

These are some general points pertaining to forms and methods of social division of labor.

#### Machine Building and Other Branches

When analyzing problems of specialization and concentration under modern conditions, it is necessary first of all to turn to machine building where all the crucial problems of economics are focused today. In the final analysis plans for reorganization of the national economy on the basis of the latest achievements of science and technology rely namely on machine building.

Historically things have worked out so that domestic machine building has developed and continues to develop mainly in the form of comprehensive universal plants that have specialized not according to indicators of the homogeneity of the technology that is applied but in the output of items for a particular purpose. These enterprises include a group of shops for production that are necessary for performing almost all the technological operations--from the blank pieces to the final product. Therefore many items of a single type (or for a single purpose) are not unified and their manufacture is dispersed among hundreds of plants and done in small series or even individually. All this impedes the rates of replacement of products and updating of fixed capital.

The list of items is expanding more rapidly than the number of enterprises is. Moreover, while there is a significant increase in the production volumes, in many cases this has decreased during past decades. So the number of various kinds of items manufactured by each enterprise is increasing, which exacerbates the process of despecialization. Moreover, there is a lack of correspondence between new, highly productive equipment, whose full loading requires more and more mass production, and the need for products that are produced on this equipment.

According to published data, in machine building as a whole, of the 140,000 items of the final product more than 42 percent are manufactured individually and only 19 percent are manufactured with a series of more than 1,000 pieces. And most of the items have a series of up to 100 pieces. The number of so-called items for general machine-building application reaches 75-80 percent of the volume of the final product, and less than half of these can be unified either among kinds of products or among branches where they are used.

In certain branches of machine building, the development and introduction of types of size and type size series have been inadmissibly prolonged both for machines and equipment and for individual components, aggregates and parts. For example, machine building consumes approximately 600 million gear wheels of 80,000 type sizes and manufactures them in about 2,000 plants. But, as analysis shows, with the application of standardization the number of type sizes can be reduced by a factor of 20, which will make it possible to concentrate their production in four specialized plants. The proportion of

application of parts that correspond to established standards and branch and plant norms is also low. Frequently the utilization of these parts for series output of products does not exceed 2 percent for machine-building GOST's and 5 percent for branch and plant norms. This leads to an unjustified increase in the list of parts, part operations and technological processes. Fasteners are produced by 2,600 plants, of which only 31 are specialized. Slide bearings are produced at enterprises of 12 ministries. The Ministry of Automotive Transportation, the Ministry of Tractor and Agricultural Machine Building and the Ministry of Power Machine Building produce almost 240 million of them without any kind of cooperation in this work. Each year the country produces almost 3 million reduction gears, of which only 900,000 are produced at specialized enterprises. Hydraulic equipment is manufactured by more than 30 plants, and it is designed by 40 institutes and design bureaus as well as 25 VUZes. Various types and kinds of equipment and technological processes come from departmental institutes and design bureaus even though they have the same final purpose. Not enough people are concerned about unifying items and processes.

An investigation conducted by the Central Statistical Administration showed that out of every 100 machine-building enterprises the following numbers produce products for their own needs: cast iron--71, cast steel--27, forged pieces--84, stamped pieces--76, and fastening parts--65. The production cost and labor-intensiveness of these items are higher by a factor of 2-3 at universal enterprises as compared to specialized ones.

Cast pieces, forged pieces and stamped pieces comprise more than 55 percent of all the parts of machines and equipment. But so far there is no possibility of fully satisfying the need for them because of the inadequate number of large specialized enterprises and shops that manufacture them. More than 2,500 shops and enterprises produce cast pieces for their own needs, and two-thirds of these products are used at only 180 enterprises that have optimal capacities. Large-scale specialized production in cast iron makes it possible to reduce the production cost by a factor of 2 and increase the annual output per worker by a factor of 10 as compared to production in small shops.

Centralization of the production of replacement parts and components, repair of equipment, the manufacture of instruments and other auxiliary work is lagging far behind.

Technological fittings for the needs of machine-building enterprises themselves are made mainly in instrument shops and not at specialized plants. Labor productivity and the utilization of equipment for these purposes is one-third to one-fourth of what it is at specialized plants and the production cost is higher. With this kind of organization, more than 450,000 workers in the country are employed in the production of instruments.

About 80 percent of the enterprises have shops and sections that manufacture fastener items at a loss while the overall volume of output is up to 200,000 tons per year. Their actual production cost is more than twice as great as the wholesale price and 10-12 times as great as it is at specialized enterprises. The organization of domestic machine building does not meet the requirements of scientific and technical progress and impedes technical

reequipment. At the present time the level of interbranch cooperation for blank pieces does not exceed 1 percent, and for parts and components--3 percent. The dispersion and ineffectiveness of products of the same type is characterized, for example, by the fact that 63 percent of the machine-building enterprises that produce cast ferrous metal pieces and steel pieces account for only 9 percent of the overall volume. These figures represent an economically unjustified expenditure of labor and material and energy resources.

Mass and large-series production does not exceed 30 percent of the overall output of products. This makes flow-line production methods less effective and impedes the utilization of new technical equipment and technologies as well as specialization determined by particular parts and technologies. The overall ratio of forms of specialization, in our opinion, can be evaluated as follows: enterprises that specialize in particular objects produce 80-85 percent of the items and those that specialize according to particular parts and technologies--15-20 percent of the items.

The level of part and component specialization on the whole for 11 machine-building ministries does not exceed 7-10 percent; in machine-building and instrument building for the electrical equipment industry it is about 3 percent, and in the Ministry of Power Machine Building, the Ministry of Heavy Machine Building and the Ministry of Machine Building for Light and the Food Industry--about 6-10 percent. In only two ministries--the Ministry of Tractor and Agricultural Machine Building and the Ministry of the Automotive Industry --this level is equal to approximately 17 percent and 26 percent, respectively.

The main direction for the formation of capacities and the development of the machine-building complex under the 12th Five-Year Plan is expansion and deepening of interbranch specialization and cooperation; the level of component and part specialization must be raised to 40-50 percent and the production of items for general machine-building application at specialized enterprises must increase by a factor of 3.5 by the end of the five-year plan, the basic list of products thus expanding from 8 to 26 items. Implementation of measures for specialization of production even under the 12th Five-Year Plan will make it possible to raise labor productivity by 12-15 percent.

Extremely good results are produced by forming specialized sections that provide the home enterprises with their own items. As calculations show, the organization of production of instruments in specialized sections makes it possible to introduce the proportional labor expenditures by a factor of 5.7, to improve the indicators of the utilization of fixed capital by a factor of 1.5-2, and to reduce material outlays by a factor of 1.5-1.7.

The predominance of comprehensive object-specific enterprises produces a great deal of inertia in the development of machine building. Now machine building produces about 80 percent of the universal equipment and 20 percent of the specialized equipment. Deep qualitative changes in the structure of production will require changes in the proportions of the production of means of production and particularly implements of labor. Then it will be possible to sharply raise the level of specialization as well.

Concentration of resources for more rapid development of production units that provide for intensification and increased effectiveness of the economy opens up a broad possibility of achieving optimal sizes of enterprises and associations and also other structural forms for more efficient organization of production and "for more extensive development of its material motive forces, that is, for progressive transformation of separate and routine production processes into socially combined and scientifically directed processes of production." (Footnote 3) This possibility is not being utilized fully enough yet. The proportion of specialized ministries in the overall volume of production of forge and press lines is 67 percent, cargo cars--64 percent, instruments, means of automation and spare parts for them--57 percent (including computer equipment--41 percent), hydraulic equipment--less than 25 percent, household refrigerators--37 percent, washing machines--38 percent, sulfuric acid--56 percent, plastics and synthetic resins--71 percent (including polyethylene--50 percent), items made of plastic--32 percent, construction materials--less than 50 percent, cardboard--80 percent, timber--59 percent, wood materials--59 percent, and so forth.

Correspondingly, process of concentration of production are reflected in these figures: metal-cutting machines and sets of forge-press equipment are produced by enterprises of 20 ministries, equipment for the food industry--18, metal-cutting instruments--23 and so forth. About 82 percent of the items in the category of construction, road and municipal machine building are concentrated at 160 plants of the Ministry of Construction, Road and Municipal Machine Building, and the other 18 percent are distributed among 400 plants of various ministries.

Products outside the main profile are most frequently manufactured in small quantities, which impedes the increase in the effectiveness of public production. Thus each of the nonspecialized enterprises enlisted for producing machine tools produces an average of one-11th the quantity of products that machine tool building enterprises do; 12 of the 26 enterprises producing power transformers account for only 2 percent of their output.

We have already mentioned the difficulties that arise because of departmental barriers when forming the organizational structures and the activity of production associations in connection with this. Let us add that this specialization as the basic type of cost accounting object so far amounts mainly to a variety of plant specialization, and specialization of plants and factories (production units) included in them amounts to shop specialization.

In present-day associations, as was previously the case at individual plants, there is a predominance of vertical ties that are in effect with sequential processing of an object of labor and deliveries of semimanufactured products, components and parts through cooperation. Less widespread are horizontal ties, whereby the enterprises have only management agencies in common and also service and subsidiary organizations. This picture has an even greater contrast on the macrolevel.

Under the 12th Five-Year Plan major attention will be devoted to improving the activity of production associations. Many of them should include those small

nonspecialized enterprises which objectively do not have the possibility of developing effectively. A number of branch institutes and organizations will be included in associations and thus the plant sector of science will be strengthened. The network of scientific production associations will expand.

Among the factors that explain the insufficiently high level of specialization in branches of industry one can name the weak economic interest of enterprises and associations in its development, the poor reliability of cooperative deliveries, the low proportion of standard, normalized and unified parts and components, and the limited funds allotted for conducting the corresponding measures. Let us name also such a significant factor as the lack of reliable indicators of the plan which would provide incentive for deepening specialization. When planning according to the "gross output" and utilizing prices that are constructed according to the "expenditure" method, the enterprises strive to manufacture as many elements of the final product as possible through their own forces, frequently to the detriment of national economic interests. This is inevitably reflected in the condition of cooperative ties and, as a result, leads to a retardation of specialization of production and a reduction of its effectiveness.

The Basic Directions for the Economic and Social Development of the USSR During 1986-1990 and the Period Up to the Year 2000 envision expanding the object, part and technological specialization and cooperation of production by effectively combining machine assembly enterprises with specialized plants. It is intended to provide for maximum unification of parts and components and to take measures to create machines, equipment and instruments on the basis of unified block-module and base designs.

Under the 12th Five-Year Plan it is intended to increase the commodity delivery of unified components and parts by a factor of 3.5 and to expand the list of items for general machine-building application. Machine-building ministries are to be held more responsible for the production and delivery of these items. Eight out of the 11 ministries have been earmarked as head ministries, each responsible for a technical policy and for the satisfaction of the needs for particular products for general machine-building application.

In recent years, in addition to the construction of specialized plants, specialized productions are being created for mass-produced standard parts and items at existing enterprises, the production of blank pieces is to be distributed more efficiently (in machine building, for example, among the casting and forging shops of various plants), and the development of standard technological processes is being accelerated. For example, a number of specialized enterprises for multibranch and branch purposes have been put into operation in the automotive and tractor industry.

In the chemical industry the currently applied technical equipment and technology for producing many of the chemical products that are obtained subsequently suggests a rigid, territorially limited interconnection of productions that are coordinated in terms of related capacities and represent various stages in the processing of products. This predetermines the need for combining these productions and bringing them closer together (as a rule, at one site). The changeover to mass application of the latest technical

equipment and technology significantly weakens the close interconnection between productions and makes it possible to locate them in more differentiated and effective ways. This makes it possible, for example, to create powerful specialized complexes for producing semimanufactured products and monomers using large sets of equipment and installations. These products can then be transferred through a pipeline for further processing to other regions that are closer to the consumers. Typical in this respect is an enterprise that was constructed in the region of Tolyatti for producing synthetic ammonia which includes seven of the largest sets of equipment with an annual unit capacity of up to 450,000 each. The ammonia that is produced is transferred through pipelines to the western regions of the European part of the country to be delivered for export and also to obtain nitrogen mineral fertilizers in the regions where they are consumed.

Similar complexes of large enterprises have begun to be created recently for producing ethylene and other monomers and semimanufactured products. These chemicals will be subsequently delivered to enterprises for producing synthetic resins and plastics which, in turn, can be sent to plants located directly in the regions of their consumption to be processed into plastic film, types and other items.

Favorable prerequisites for deep specialization exist in the tire industry and facilities for producing paints, lacquers and dyes.

A comprehensive program has been developed for improving management of light industry. A great deal of attention in it was devoted to deepening specialization of production associations, enterprises, individual production units, shops and flow lines. The corresponding measures have been earmarked for more than 250 production associations and enterprises of the sewing, leather-footwear and other branches. According to calculations of specialists, the development of specialization that was conducted experimentally at enterprises of a number of branches of light industry in Latvia, Lithuania, Estonia and Belorussia will produce quite an appreciable economic effect. Flow lines with optimal capacities are being introduced at specialized enterprises, the readjustment of equipment is being reduced or eliminated, and means of minor mechanization are being utilized extensively. As a result, labor productivity is increasing, equipment and materials are being utilized better, and product quality is improving. Thus in the Moskva Production Association of the Sewing Industry, because of the high level of object specialization accompanied by the development of part and technological specialization, labor expenditures of the manufacture of each item have decreased by almost half over 8 years and the output of products has increased by a factor of 1.7. In the Smena Sewing Association deeper specialization, in addition to increasing the output of products, has contributed to significant savings on materials (about 200,000 square meters per year) and to a 12-fold increase in the output of items with the emblem of quality during the 5 years.

#### Capital Investments, Prices and Incentives

One of the important tasks of the agencies that have been formed for management of complexes of interconnected branches is to develop and implement measures for effective concentration, specialization and cooperation.

The capital investment policy is of primary significance in the development of long-range and effective forms of production organization. With the help of this it is possible to expediently influence the course of the implementation of long-range programs for the reshaping of economic structures. Current restructuring of production facilities is reflected in the plans for reconstruction and technical reequipment of existing industrial subdivisions. Specialized enterprises are distinguished by a relatively simple production structure and they make it possible to reduce significantly (by 40 percent and more) the overall volume of capital investments as well as to obtain a rapid return on the funds that are invested. Thus a possibility is created for directing additional capital investments to the organization of specialized branch and interbranch procurement, service and auxiliary productions. As calculations show, with the creation of specialized capacities as compared to the construction of complex enterprises, proportional capital investments decrease significantly in the production of cast blank pieces--by 28-30 percent, hot stamped pieces--by 40-45 percent, metal processing instruments and technological fittings--by 18-20 percent, and capital repair of electrical equipment--by 30-32 percent.

The experience of the GDR shows the effectiveness of capital investments in the construction of specialized enterprises. Since the beginning of the 1960's the republic has prohibited the planning and construction of universal enterprises. Centralized capital investments are allotted only for the construction of specialized plants and combines. The client enterprises can no longer construct "their own" enterprises for producing products for interbranch application, even with their own money. Associations have been created for specialized production of cast metal items, reduction gears, and there is a combine for producing instruments.

It is necessary to improve wholesale prices for spare parts, new parts, components, aggregates, and semimanufactured products, which are established by branch ministries and far from always motivate the manufacturing plants to expand the output of products intended for cooperative deliveries. Wholesale prices for them in many cases are established without taking into account the increased labor expenditures on their manufacture. It is necessary to establish a price-setting policy which would contribute to the development of specialized interbranch productions, to increase output of spare parts, to a reduction of labor expenditures on the repair of equipment, to improvement of the quality of repair, and to more effective utilization of machines and equipment.

The process of specialization is positively influenced by a policy whereby the fulfillment of the plan for delivery of products to the consumers becomes one of the fund-forming indicators. The strictest observance of contractual discipline provides for stability of ties in cooperation and makes it possible to reduce to a minimum the supplies of purchased items, the area of warehouse facilities, and the number of personnel working in warehousing.

Let us sum up the results. Guided by the party's strategic course toward acceleration of scientific and technical policy, a structural rearrangement of the economy and improvement of the economic mechanism, it is necessary to

devote special attention to radical measures for specialization, cooperation and concentration of production in various branches and spheres of the economy, especially in the machine-building complex. Maximally extensive development of part, component and technological specialization, unification and standardization of items of various kinds, and then in the branch and interbranch cross-sections will make it possible to replace universal enterprises with plants of the assembly and machine assembly type in combination with narrowly specialized plants and shops for manufacturing unified parts, components and sets of equipment. It is also necessary to expand the network of plants and shops that perform specific kinds of technological operations.

Great possibilities of deepening social division of labor on the basis of economically justified concentration, specialization and cooperation of production exist in many branches of the extraction and processing industry, in the agricultural complex, and in the sphere of services. As with other questions of social development, here it is important to avoid policies and methods that have become customary but have outlived their day, to overcome the force of inertia that has developed stereotypes, and to manifest innovative approaches to solving urgent technical and organizational problems.

In the state plan for economic and social development, and especially in the plans of the ministries, associations and enterprises it is expedient to single out concrete jobs for concentration and specialization of production, having increased the responsibility of executives of all ranks for carrying out assignments. Refinement and substantiation of planning indicators with specialization and concentration and also the utilization of the proper incentives and economic levers could contribute to this to the greatest degree.

It will be necessary to carry out more actively scientific development of questions of division of social labor and development of concentration and specialization of production, which have been lagging behind in past years. Branch and departmental institutes and laboratories and the corresponding subdivisions of VUZes will have to engage in thorough research in this area. And the tone of the theoretical and methodological plane could be set by scientists of the USSR Academy of Sciences and the Academies of Sciences of the Union Republic.

#### FOOTNOTES

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2. Lenin, V. I., "Poln. Sobr. Soch." [Complete Collected Works], Vol 1, p 95.

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## NEW DEVELOPMENTS IN COMPUTERS RELATED

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[Article by V. Ye. Kotov, doctor of physical and mathematical sciences, computer center of the Siberian branch of the USSR Academy of Sciences (Novosibirsk): "On the Path to the New Generation of Computers"]

[Text] Creators of computers and specialists in the area of information science traditionally call each significant improvement in the technical parameters of computers and their capabilities the next generation. It is thought that from the time of the appearance of the first electronic calculation and problem-solving devices there have been three generations and now a fourth is being assimilated. Discussions about the peculiarities of machines of the next generation are usually conducted by professionals on the pages of specialized publications and sometimes in popular scientific magazines and books. Unexpectedly at the beginning of the 1980's the mass media throughout the world began to actively discuss the problem of the next generation of computers, the fifth.

The impetus was the national program declared by the Japanese for research in experimental development in the area of computer equipment and information science which journalists called the "Japanese challenge." In this program the development of a new generation of means of processing information was regarded for the first time not as a purely technical task whose solution would contribute to progress in various areas of science, technology and economics. It was interpreted as a revolutionary change toward "all-around computerization" of the society, toward the creation of new information technology on the basis of which all aspects of life would ultimately be automated.

Industrial and household robots, shops run without people; "intelligent" household and professional personal computers that communicate with man in his native language and receive and synthesize speech and complicated images (blueprints, text, documents, drawings); automated work places for intellectual and creative activity (the designing of complex objects and control of them, machine translation and editing, and so forth); automated transportation and communications; ultraproductive computers for solving the most complicated scientific and technical problems; widespread databanks and

knowledge related to global and local information networks--all of these are elements of information technology of the relatively near future. Information and means of gathering, transmitting, accumulating and processing it by the beginning of the next century will be attributes of our life that are just as necessary and customary as electricity, electrical machines and radio electronic equipment are now.

What new properties should computers of the fifth generation have as compared to the ones that now exist?

First of all, their technical specifications (rapid action, volume of internal operating memory, volume of external memory, number of logical elements in the microcircuit, reliability and so forth) should improve by a factor of at least 100-1,000, since it is precisely the quantitative parameters that finally determine qualitative progress in computer equipment. This pertains to all types of computer devices, from microprocessors that are built into instruments to supercomputers whose speed of operation will be measured in billions of operations per second and whose volume of memory will be measured in billions of bytes.

Mass computerization will require changes in the style of communication with computers. They should become "intelligent" enough not only to understand text that is entered from the terminal by professional programmers in a formal programming language, but also to master forms of communication that are customary for us--typed and hand-written texts and documents, visual images and oral speech. Moreover, computers should learn to understand (even if only in a limited volume) the meaning of phrases in natural language and to accumulate and process not only data, but also knowledge. To do this they must master the art of compiling algorithms for describing tasks and learn to logically derive new facts from those that are already known. Such concepts as knowledge bases, expert systems, informal conclusions, recognition of images, semantic models and others that were known previously only to scientists working in the area of artificial intelligence will become customary in the context of the fifth generation of computers.

The diversity of types of computers is increasing--both in terms of productivity and in terms of purpose. For the most part they will not be used autonomously but will be elements in more complicated systems: "intelligent" instruments and machines, flexible automated productions, systems for control and design, and global and local information computer networks. Therefore means of combining them and linking components will be more developed in these. In the future, computers and means of communication will be joined together into regional, national and international information networks similar to modern energy networks.

It would be difficult to achieve the goals that have been earmarked using technological improvements alone. Therefore in research on the fifth generation of computers the greatest reliance is placed on realizing new, nontraditional architectures for computers and new methods of programming. The most significant feature of the new architectures is the profound level of eliminating parallel information and combining processes of processing information in the machine by including in it a large number of processing

devices (processors) working at the same time and interacting with one another while solving the same problem.

The "Japanese challenge," which was initially regarded skeptically, nonetheless forced other developed countries to follow the example of the most advanced country in the area of electronics and initiate their own scientific research plans for the creation of the fifth generation of computers. It became clear to specialists that even if the Japanese did not succeed in achieving all of the goals that had been declared, they were moving in the right direction and, by concentrating their own research resources under the banner of a single idea, they would move so far in this direction it would be difficult to catch up with them. Moreover, the designs from various countries which on the whole adopt the Japanese concept are trying to feel their own way and are relying on the more advanced scientific directions in this country.

The United States had not formed a single national program but work had been started on several projects. The most widely known of them was the one carried out by the MCC (Microelectronic and Computer Corporation) that was formed in 1983--it included a number of well-known American firms, such as Honeywell, Motorola, Control Delta, RCA and others. While the Japanese project is by nature a "strategic initiative" directed toward taking over key positions in the world "information market," the American markets have a clearly expressed orientation that naturally fits into the course being followed by the current U.S. Administration toward militarization of scientific and technical progress. The Western European countries, recognizing that each of them individually is incapable of independently standing up against any significant electronic superpower, are trying to combine their efforts in international plans--such as Esprit and Eureka.

All plans for the fifth generation of computers are typified by an approach to the organization of scientific research that is new for capitalist countries: the existence of long-term programs with state-by-state planning, solid financial support both from government organizations and from contributions of private firms, and the joint work of science and engineers from various academic and industrial institutes on one project.

The concept of the fifth generation of computers has attracted the attention of specialists in our country, the more so since many of its scientific tenets and technical solutions were suggested earlier by Soviet scientists. This concept became especially crucial during the period of the discussion of ways of accelerating scientific and technical progress and intensifying the development of the national economy on the basis of automation and computer equipment. In order to select a strategically correct path to the achievement within acceptable time periods of a level of development of domestic technology which could be a part of the fifth generation, it is necessary, first and foremost, to make a realistic estimate of our current scientific and technical potential and our developed methods of production and updating means of computer equipment as well as methods of utilizing it. We shall note only a few but, in our opinion, the most important problems whose solution is a necessary condition for the implementation of any plans in this area.

First of all it should be noted that the technical level of the domestic computer equipment produced today and the list of kinds of it do not meet modern world standards. The reliability of computers and peripheral equipment is low and their parameters do not meet the requirements of the active user. The rates of updating machines and devices are slow and we have not mastered mass output of personal computers or 32-bit minicomputers that now form the basis for extensive introduction of systems for automating control and planning. Our scientific centers do not have the supercomputers necessary for solving complicated scientific and technical problems. The general-purpose computers that are being utilized extensively and their software are complicated to operate.

The computer is one of the most complicated devices created by man. It is constructed from a large number of materials and items that are produced by enterprises of various profiles--machine building, electrical equipment, means of communication, electronics, the chemical industry and so forth. Moreover, a relatively small quantity of items is required from each of these productions but in manufacturing them they must use extremely precise technologies which are frequently the most advanced for the given time. Many initial components of this type are manufactured at enterprises of associated branches which produce their own basic products in incomparably large volumes. The planning system adopted for them is oriented toward quantitative indicators and product volumes, and it by no means stimulates the creation of high-quality small-series components of computer equipment. To this one must add the complicated interdepartmental relations among the producers of items of this type and the difficulties in coordinating the constantly changing requirements for their parameters. As a result, it takes a long time to develop the final product--the new computer--and by the time it is produced it is becoming obsolete and is delivered to the consumer in "crude form" so that it requires more basic "additional work" and the replacement of elements that are not working. Frequently even after that the machine continues to operate unreliably.

The desire to take credit for producing the largest possible number of computers leads to a situation where the consumer receives them in minimal configurations: they are equipped with small volumes of memory, poor peripherals, and undeveloped means of organizing remote access. As a result, the idea of creating the VTsKP (collective use computer center) which is correct under our conditions was not technically reinforced and they were not provided with the necessary additional equipment (incidentally, unexpected bureaucratic obstacles also arose here. For example, two organizations that belong to two different departments but are territorially close together decided to increase the effectiveness of their machines by combining them into a unified complex. The next commission that checked the "correctness" of the utilization of computer equipment in one of the organizations demanded that the complex be broken up since it had discovered a financial irregularity. They could not figure out how to calculate precisely the output of machine time in "their" part of the machine complex if the process of processing information were distributed throughout the entire complex.

A fairly superficial criterion of the effectiveness of the utilization of computers is now used in the national economy--the average daily loading. It

does not take into account the real contribution of the computer equipment to solving the basic problem of the enterprise and does not provide incentive for assigning really crucial tasks to the computers. As a result, the mass introduced automated control systems that are frequently limited to accumulating purely informational material and solving bookkeeping and other accounting problems as an "electronic arithmometer" and the programs for optimal planning, comprehensive automation and others are not introduced since their influence on the economic life of the enterprise and on the final product is not manifested in clear form.

The aforementioned problems are the results of the overall lack of correspondence that is developed in recent years between the organizational and economic mechanisms of control, on the one hand, and the requirements of modern production at the tasks of accelerating scientific and technical progress, on the other. This lack of correspondence is perhaps especially marked in the area of production and application of computer equipment since this is a relatively new area of technology which is developing in the rest of the world in unprecedentedly rapid rates.

Other reasons for the unsatisfactory state of affairs in the area of computer equipment are of an organizational and technical nature. The main one of these is the method of assimilating new types of computers in series production that was developed in the 1970's. As in many other branches of technology that are related to the production of complicated items, a new type of computer or computer device is assimilated by industry on the basis of a certain prototype. The prototype is the mockup (experimental model) of a principally new machine developed in scientific organizations or the preceding, less perfect model of the machine that has proved itself well in production and operation. In the first stage of the development of Soviet computer equipment the new computers (including the very first ones) were created in scientific organizations of the USSR Academy of Sciences and then, on the basis of these, families of more and more modern machines were developed. During the 1960's and beginning of the 1970's the basis for domestic computers were computers of the M-20 type and the MINSK and URAL families of machines, and the BESM-6, which is still working well in many computer centers. Many of the leading architectural ideas of the time were realized in these machines and cadres of Soviet computer designers who are capable of further creatively developing domestic lines of machines taking into account the peculiarities of our production and our style of utilization of technical equipment, grew up on them. But then decisions were made which resulted in using foreign families of computers as prototypes for new machines. The initiators of this step gave certain arguments in favor of this decision but it is now clear (we are strong on hindsight) that their arguments were based more on tactical considerations and they turned out to be strategically questionable. While we managed to realize the first part of the decision quickly (to depart from domestic prototypes), the second part (to transfer foreign architecture to our soil) turned out to be much more difficult (a confirmation of the old truth: it is easy to destroy and it is difficult to build back up). This happened because it was difficult to deal with all the fine points of the functioning of modern computers quickly. It was also difficult to adapt the architecture to other technological possibilities. Moreover, our methods of operating computers are different

from those used abroad. The promised mass delivery of prepared applied programs for new machines never came about for a number of completely understandable reasons. At that time we were programmed to follow constantly in the wake of foreign firms. Moreover, the rapid rate of updating of the world fleet of computers, the growing intercoordination of system and technological problems, and the introduction of means of protection from pirating make the method of copying foreign prototypes completely futile.

The existing situation has not contributed to the development of domestic methodology for planning or the technology of creating computers with original architecture. Therefore it is now difficult for departments that produce computer equipment to stand on the sidelines of the borrowed "lines" and "series" of computers which are far from always based on the most progressive architectural principles. This technical policy is also reinforced by economic considerations: a small number of unified series of computers will save on the technical and personnel resources of the producers, standardize service and the accumulation of software, and so forth. All this was true in the recent past. But because of the expansion of the spheres of application of computer equipment and the creation of more and more diverse automated systems on the basis of these there is also a greater diversity of requirements placed on the quantitative and qualitative parameters of the machines and, consequently, on the diversity of types of them. With the reduction of the cost of technology and the development of systems for automating planning of means of processing information, a new situation will arise in the near future. It will be economically more advantageous for consumers of computer equipment not to expend efforts on fitting in to the bed of Procrustes of universal equipment, but to order "turnkey" computers which in terms of their parameters (including cost) would optimally meet current demands. This is why it is so important to have accelerated development of the flexible technology of "large-block" planning and manufacture of "ordered" computers and complexes as well as the technology of rapid creation of software for them.

Our country has a sufficient scientific reserve to develop work for creating a fifth generation of computers. But this reserve can be put to work successfully only if we radically change the organizational and technical methods of solving these problems.

The creation of computers of the fifth generation is a complex problem. It includes a large number of interconnected research and development projects, from the foundation of computer equipment--the microelectronic base--to the technology of constructing applied automated systems. Success in solving this problem is determined more by the total advancement in all directions without exception than by large leaps in individual directions. But still certain directions are now especially important because of the fact that they are principally new and their current condition is especially unsatisfactory.

A central position is occupied by problems of the architecture of fifth-generation computers since it is precisely the architecture that ultimately determines the technological requirements on the element base and at the same time the possibilities offered to the programmers. As was noted above, the basic national economic lines for computers now follow the corresponding

foreign lines. This process of copying cannot be halted instantaneously but one can gradually be released from it by creating and developing new domestic lines in parallel. Is this statement of the task realistic, and would it thus be possible to select a path of orientation toward principally new architectural ideas and solutions? Perhaps the development of computer equipment is proceeding along a single route within which only insignificant deviations from existing principles are possible? The fact of the appearance of new directions in computer equipment during the past decade points to a negative answer to this question.

As was already noted, the variety of types of computers is now increasing. And new machines appear, as a rule, not within the framework of existing industrial lines, but as new points of growth. Suffice it to recall that the first personal computers appeared not in large computer corporations but as a product of a small firm that was established by young enthusiasts of computer equipment who were working almost under the conditions of an amateur radio club. This firm created a breathtaking financial career, but then solid traditional companies caught up with (and passed) it, firms such as IBM, which arranged for the output and sale of personal computers in the style typical of international giant corporations. One of the first supercomputers, the Cray-I, was created in a short period of time by the American designer S. Cray and a small collective of developers after Cray left the control data corporation where he was unable to realize his ideas in the necessary volume. One can also understand the cautious position of large firms for which, under the conditions of the stiff competition, it is financially disadvantageous to depart radically from their general line since this does not produce immediate or large enough dividends.

Thus the accelerators of progress in the area of computer equipment now are certainly not the large corporations, but the new firms which, naturally, cannot compete with the giants and must move boldly forward, frequently getting ahead of the less maneuverable giants for a little while.

We have discussed the history of the appearance of new types of machines in order to prepare for the next point. It is necessary to begin new domestic lines of computers on the basis of the latest scientific achievements in the area of computer equipment and information science and to proceed more boldly toward "cutting" corners in our movement toward the new generation of computers. Of course, it is necessary to use as a basis only scientifically substantiated and verified ideas and to take our technological capabilities into account. At one time we were solving the same problems as, for example, the Americans were on machines with parameters that were not as good by using better-thought-out and more effective algorithms. It seems to us that this experience must be transferred to the area of designing computers as well: as a result of better-thought-out and more "clever" architectural decisions we could create computers that are effective enough, with more modest parameters of the element base (with the exception, perhaps, of reliability).

The existing method of comprehensive target programs is not suitable for organizing work for creating computers of the fifth generation since it does not provide for real integration of the large spectrum of research and experimental design development or for a significant acceleration of the rates

of their introduction. These programs are actually formed "from below to above" so that various institutes and enterprises suggest carrying out individual scientific research and experimental design projects proceeding mainly from their own scientific reserves and resource support. As a result, there is no unified planning style for the implementation of the programs.

A more adequate form for conducting work on creating computers of the new generation (and software for them) would be the organization of plans of an interbranch nature. Their basis could be the network of temporary scientific and technical collectives (VNTK) organized according to the principle of "from above to below." They would work on individual assignments of plans on a contracting basis under the leadership of the head institutes that carry out planning, coordination and support for all the work. This kind of organization will make it possible to avoid the creation "in the same place" of new institutes (with the prospect of spending a couple of years on bringing them up to the required level) and to enlist in the project groups of specialists that already exist in various places and at the given time have the maximum scientific, design and production potential. It will be possible to flexibly redistribute assignments and resources, to bring new collectives in to solve the most complicated or unexpected problems, and to arrange for competitive duplication when selecting various variants of a solution to one and the same problem.

One of the most crucial organizational problems of modern science is providing the researchers with adequate instruments and an adequate experimental production base. The design bureaus and experimental productions that exist, for example, in the USSR Academy of Sciences cannot provide for conducting convincing experiments on the creation of prototypes of machines of the new generation. Attempts to enlist industrial enterprises for this work have come up against quite understandable difficulties: it is impossible to manufacture unique items with advanced technology under the conditions of mass production or series production. This is why it is necessary to create and technically equip experimental and testing production subdivisions of an interbranch nature at large scientific centers or in scientific production associations. At the same time it is necessary to develop at more rapid rates systems for automated designing of integrated circuits, computers and software so as to make it possible to rapidly realize experimental developments so that they are not outdated by the time they are completed. Finally, one should also recall quite ordinary things: efficient priority supply of scientific research projects with materials and batching items, since the current policy for filling out orders inadmissibly prolongs the time periods for acting on them.

We should especially like to discuss personnel problems, which can arise when realizing designs of computers of the new generation. The need to adapt rapidly to the most modern methods of creating computers and software and at the same time, to realize new ideas in specific items at a high rate places special requirements on collectives of developers. They should be composed basically of young specialists who are not held back by conservative experience in working with outdated computers and programming languages, but are capable of mastering theoretical and practical innovations rapidly, thinking in an original way, making independent planning decisions and implementing them efficiently. The problem of the rapid professional aging of

programmers was discussed by Academician A. P. Yershov as early as 1972 in his article entitled "On the Human and Aesthetic Factor in Programming." (Footnote 1) This problem has become even more crucial now. We still see cases where more experienced specialists who have entered a group of young developers have ended up in the position of "old-timers" who find it difficult to conduct planning work at the same rate as the others. Therefore it is important to begin as soon as possible to form collectives who are capable within a short period of time of solving complicated problems having to do with the creation of new computers and programming systems.

When selecting specific ways of creating computer equipment and software of the new generation one should avoid being bogged down by basic technical solutions from earlier stages of the work. It does not take so many resources to start in several alternative or mutually augmenting directions. The design selection of variants at the stage of changeover to the creation of experimental models will make it possible to intensify research and development of mockup and then to objectively select the most successful solutions for they can be further developed taking into account the requirements of future producers and clients. Thus the "market of prototypes" is necessary in order to avoid "scientific voluntarism," which, unfortunately, exists in the advancement of scientific ideas and results through the hierarchy of scientific and administrative authorities at whose upper echelons the directive potential is considerably greater than the professional potential.

Understanding that the formation of a unified all-union program for scientific research and experimental design work in the area of creating computers of the fifth generation is a complicated organizational task which can hardly be carried out in a short period of time, the group of scientists from the computer center of the Siberian branch of the USSR Academy of Sciences, the Computer Center of the USSR Academy of Sciences in Moscow and the Institute of Cybernetics of the Estonian SSR Academy of Sciences in Tallinn in 1984 suggested organizing a joint initiative whose goal would be to develop several base elements of the concept of a computer of the fifth generation. Here it was assumed that even a simple unification of mutually augmenting research being conducted in the aforementioned organizations into a unified project with a unification of instruments and coordination of ties among them would produce a significantly greater effect than separate projects. In fact the final goal was the task of creating a mockup of the computer system of the new generation with intelligent software.

The leaders of the aforementioned institutes have suggested creating a temporary scientific and technical collective distributed territorially for a joint solution to the problems that have been set. In April 1985 such a collective, which was given the name VNTK "Start," was formed. Its creation made it possible to bring together under unified organizational and scientific leadership the works of the collectives of four organizations belonging to various departments (USSR Academy of Sciences, the Siberian Branch of the USSR Academy of Sciences, the Estonian SSR Academy of Sciences, and the Ministry of Instrument Making, Automation Equipment and Control Systems), to organize centralized support for joint work, to apply an effective system of payment for labor depending on the overall results that were achieved and, as a

result, to increase the responsibility of the workers as well as the collective productivity of their labor.

The VNTK "Start" should complete work on the creation of a mockup of a computer system of the new generation with means of creating intelligence. In short but realistic time periods they will also develop concrete recommendations for manufacturing an industrial experimental model. The time period is extremely short, but realistic. But a number of organizational problems still remain. They are basically related to the fact that while the internal organization is flexible enough, the VNTK interacts with the external world according to the rigid system of "viability" that is accepted for "permanent" institutes. In particular, this does not make it possible to efficiently supply the developers with the necessary equipment, and all the work schedules now depend on the only uncertain parameter--technical support. On the whole, even the first year of the existence of the VNTK demonstrated both to managers of the collective and to the workers the advantages of the new organization of work, and a large role was played not so much by factors of material incentives as by the existence of a clearly formulated common goal and the feeling of being participants in useful work that was external to their own organization.

Let us repeat that the concept of the new generation of computers as it has been formulated in the world at the present time goes beyond the framework of purely scientific and technical problems and acquires principal economic and political significance. In our country it should be the first step on the path to complete technical reequipment of the national economy on the basis of means of automation and computer equipment. Since microelectronic and computer equipment are catalysts for scientific and technical progress, they should develop at the fastest possible rates.

The recognition of the ever increasing role of information science and computer equipment in the development of our society has been confirmed organizationally in recent years. Problems of preparing the younger generation for life and labor in the company of computers are being discussed actively, teaching of information science has been introduced into the schools, and in Novosibirsk they have organized the Institute of Information Science and Computer Equipment of the Academy of Pedagogical Sciences. In 1984 as part of the USSR Academy of Sciences they formed the Division of Information Science, computer equipment and automation. This act seems to emphasize that in a short period of time (less than a half a century) a new scientific discipline has taken form with its own fundamental laws, research methods and various applications. The division is called upon to coordinate and direct scientific research in the area, to develop an experimental base for it, and to work out, in conjunction with ministries that produce computer equipment and means of automation and also all who use these, a unified scientific and technical policy for the long-range future. A special role in implementing this policy is to be played by the new USSR State Committee for Information Science and Computer Equipment.

Our country has positive experience in solving complicated comprehensive problems in short periods of time. It should also be used for accelerated development of computer equipment and automation systems that are based on it.

In turn, the implementation of the program for the creation of computers of the new generation will make it possible to test methods for solving other large-scale problems having to do with the acceleration of scientific and technical progress.

The 27th CPSU Congress envisioned an increase in the volumes of production of computer equipment, greater reliability of this equipment, and the assimilation of new kinds of computers. It is the duty of Soviet scientists and developers of modern computer equipment to carry out the tasks that have been set.

FOOTNOTE

1. KIBERNETIKA, No 5, 1972, p 95.

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## BUSINESS LEADERS DISCUSS REORGANIZATION

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 55-69

[Discussion with G. I. Loginov, chief of the Startup and Adjustment Administration; B. V. Prilepskiy, candidate of economic sciences; N. D. Matveyev, general director of Sorevnovaniye Sewing Association; A. I. Kurtsevich, general director of Sibir Leather Haberdashery Association; A. N. Shkulov, general director of Vega Production Association, Hero of Socialist Labor; Zh. F. Kryuchkov, director of a precision machine-building plant; and I. M. Selivanov, director of Olovozavod: "Restructuring: Quality and Time Periods"; first four paragraphs EKO introduction]

[Text] The course taken by the party toward acceleration of the development of the country's national economy requires a radical restructuring of the activity of all of its units. How is this process going, to what extent does it affect the core of material production, the industrial enterprise, how realistic are the changes taking place in the upper echelons of the management of the national economy--at the level of the USSR Gosplan, the state committees, the Ministry of Finance, the Gosbank and Stroybank, the ministries and departments?

The tracing of the process, the disclosure of the most vulnerable places, and design suggestions--these are the goals our magazine is setting for itself under the new conditions. The first article of this series was published in the third issue for 1986 and was entitled "The Restructuring is Continuing."

A year has passed. What has changed? Has success been achieved on the path of restructuring?

A discussion of this subject was continued at the regular meeting of the Directors' Club of Novosibirsk. Participating in it were managers of industrial enterprises, scientific workers and business executives. The meeting was conducted by the editor in chief of EKO, Academician A. G. Aganbegyan and Candidate of Technical Sciences Yu. G. Shelyukhin. It was suggested that the participants in the meeting answer several questions about how the restructuring is proceeding in the country's national economy.

First question: What are the incentives for reaching the highest scientific and technical goals and to what extent can success be perceived in the reconstruction and reequipment of industrial enterprises?

G. I. Loginov: Recently very much has been said and written about restructuring. But, unfortunately, much of it ends with discussions. The radical changes toward which we are all striving are not yet taking place. Why? The fact is that restructuring is a comprehensive measure. It requires radical changes throughout the entire system of management and even in the social sphere. This has not happened.

I shall give a brief example. The CPSU Central Committee published a decree concerning technical reequipment of enterprises where the focus was placed on the fact that the financing of the technical reequipment should come from the funds of the enterprises and that it would be possible to use bank credit. A particular policy was determined for providing material resources for facilities for reequipment. It would seem that everything was clear. But the old instructions that interpret the policy for technical reequipment continue to be in effect--nobody has abolished them! And when the enterprise has to construct even a small edition the Gosbank requires a special decree. And it is very difficult to get this. This approach was established when the enterprise was being constructed at the expense of the state budget. But if it is developing at its own expense, then probably it should be entrusted with the selection of the path of development. If we have been given the right to form a fund for the development of production we should have the opportunity to obtain construction materials--brick, gravel and everything else. This most important issue has not been resolved; it is hanging in the air. It has turned out that everything seems to be all right but nothing is happening.

B. V. Prilepskiy: I agree fully with Gennadiy Ivanovich. Decisions that are made above are not delegated to people below. I shall give an example from the practice of one of the plants in the city. Here the process of reconstruction itself is proceeding fairly strongly and the management of the enterprises is devoting a good deal of time and effort to it. In 1986 Glavnosibirskstroy concluded an agreement for 700,000 rubles' worth of work. It was reinforced with resources, the financing policy was determined, and the design bureau prepared the planning documentation. A decree of the CPSU Central Committee stipulated that the resources should be provided by the builders. The enterprise gave them the resources, but the head bookkeeper of Glavnosibirskstroy refuses to sign the document since there is an order from the minister (already a former minister!) which prohibits such operations. And when an order comes from a new minister? Here is the answer from the ministry: this question can be resolved locally. But for about a year it has not been resolved! In general there are very many shysters, both in the ministry and in the local areas. There are also many outdated instructions which should be removed in one fell swoop.

The second issue concerns the development of machine building and enterprises of the nonmachine-building complex. The branch has a unique understanding of priority in development: as the possibility of developing at someone else's expense. In 1985 the former minister of the machine tool and tool-building industry even published an article about this in PRAVDA. He wrote candidly

that they had sharply curtailed the output of less productive equipment--drilling and boring machines, small and medium-sized presses, and so forth; this increased the labor productivity of the equipment they produced from 9 to 14 percent. But the branch deprived small and medium-sized enterprises of the possibility of producing small packaging and small stamped pieces, which we cannot do without and without which we have no cooperation. And yet nobody has taken the branch management to task even yet! The minister was relieved of his duties but the matter has not changed.

Now about the other side of the matter. The entire machine tool fleet is now being directed toward the development of machine-building ministries. This is correct, of course. But yet at the same time new capacities are being introduced in other branches for which funds had not been allotted previously. These deliveries were abolished by the USSR Gosplan which said this in response to our questions: The equipment will be sold to you from machine-building branches. But this is not the equipment we need....

M. D. Matveyev: In light industry there are now many attempts to set up a smoke screen and show that there are changes where in fact there are none. This pertains to technical reequipment as well.

It is suggested that the equipment we have working in our flow lines now be included in the flow lines of the next generation. What kind of technical progress is this and what kind of second generation flow lines are these? If, say, our country does not have any new machines or if we are unable to purchase them abroad, such big words as "second-generation flow line." We should call a spade a spade and not plant in the collective seeds of suspicion of the existence and possibilities of restructuring. It is possible to deceive the upper echelons of management with such measures, but you will not deceive the collectives of enterprises. But this desire to "give a good report" still remains. And yet today there are no documents for the future which would not indicate when certain equipment will be produced so that we can also plan the development of flow lines taking into account the time periods for obtaining the new machines. Perhaps things have not reached this point yet in light industry?

A. I. Kurtsevich: What, in my opinion, has changed in light industry since the 27th Party Congress? First of all, I would note the psychological change in the awareness of the workers and a considerable economic restructuring is under way: the economy and profitability of models is increasing because of the introduction of intraproduction cost accounting [khozraschet] although our ministry has not yet determined the economic normatives. We have confidence that better times will come, we have felt the manifestation of interest in the branch, the suppliers have begun to meet their commitments more precisely, and the assortment of materials and accessories that is offered has been expanded. The association in conjunction with the planning commission of the Gorispolkom has worked to enlist in cooperation local industry enterprises and also large enterprises of the city. From the standpoint of the material side of production, there are no changes. I completely agree with Nikolay Dementyevich and think that the major question is technical restructuring of enterprises.

I shall not repeat all that. I shall say only that for a number of years USSR industry has not engaged in the development and production of universal, highly productive and specialized equipment for our branch.

A. N. Shkulov (A. N. Shkulov is now a personal pensioner): as concerns reaching new technical goals I am convinced that with respect to the kinds of products we produce (household radio equipment) there will be no progress until we have created large closed associations, concerns that are scientific and technical complexes capable of solving the entire complex of problems as arise and setting the task not of catching up with foreign firms but creating new technical equipment that is of a better caliber. We must envision the organization of industry in terms of large closed cycles.

On a more global scale I should like to see ministries that depend on one another in terms of the final result of their work joined together so that they are not impeded by interdepartmental barriers. For example, a combined ministry of the radio electronic industry would have incomparably greater successes in development than they do now.

We are forced to start our own element base from zero, having neither scientific nor engineering personnel nor production nor technology, while in the electronic industry this has all been created and developed. But they work according to their own plan without reaching the final goal.

Second question: How have the situation and role of the manager changed? What today is the nature of the interaction of economic, soviet and party leaders?

A. N. Shkulov: So far mutual relations all have the same character: pressure from Soviet and party leaders. While previously we did not have rights soon we will not have individuals at the head of enterprises either. Those positive, progressive changes in industry that are taking place now are the result of our appeals to increase discipline. People have responded positively to them. But so far we do not see any deep changes or any results from the system of economic factors. Quite recently the enterprise was given 17 mandatory indicators and now there are 10 basic ones, but the seven have also remained as calculation indicators and this means that we still have 17 as we did before. The regulation of the work of the manager sometimes reaches the point of being absurd. I shall give an example. There is the plan for organizational and technical measures that everyone understands and has long been applied, which provide for the fulfillment of the state plan by all subdivisions with respect to all indicators. Every self-respecting manager begins his activity with its development and fulfillment. The basic measures of this plan are controlled by higher organizations. But certain managers did not think that this was enough. They invented a new method of control: an assignment was introduced for developing organizational plans. It envisions the development of organizational and technical measures for all areas of the activity of the enterprise right down to social measures for practically every section. In general this had been done previously, but there were no reports on it. A report was introduced about 2-3 years ago. It consists of 30,000 questions and weighs 3 kilograms. It was necessary to have several dozen people at the enterprise in order to draw it up. Naturally, such a plan

cannot be properly accepted by the management of the enterprise, the more so since labor expenditures on drawing it up greatly exceed the effect from it. We were forced to unilaterally refuse to fill it out.

Of course control is one of the conditions for success in work. But recently we have become too involved in it. Now there are more people who are controlling than there are who produce products. Not only do they themselves not produce anything, but they make it more difficult for others to work. I think it is necessary to take an active and bold approach to reducing unnecessary supervision of enterprises and plan for them only the products list, which determines the success of the work of other enterprises, and profit, which determines the economic position of the enterprise itself. If a plant produces household equipment why should someone else plan for it how many tape recorders to produce in which categories and at what value? It is trade that determines the products list. Has this been discussed too much? Yes, but things have not gotten off the ground.

If all indicators were to be fulfilled the fund for the development of production could be increased under the new conditions by a factor of 3.5, and the fund for social, cultural and domestic measures--by a factor of 4. But this is envisioned only in the directives. In order to carry out the difficult assignments that are given to us, we must untie the hands of the enterprises and give them the right to resolve their own internal problems, and we must balance assignments with the provision of resources. So far the existing situations not only have not expanded our rights but, on the contrary, have reduced them. Here is an example. The Gosbank monitors the products we sell--whether they are planned or not. The Gossnab does the same thing. They ask the question: why have you produced a certain kind of tape recorder in excess of the plan? Because people buy it. Then they show me a list where it is written which products are promising and which are not. But that document was produced a long time ago and in the time it took to reach us that which was promising has become unpromising and vice versa. The list of products for which there is no demand includes the popular Vega-300 radio phonographs, which trade is anxious to get hold of. But the Gosbank applies economic sanctions to the enterprise for above-plan output of it. The enterprises take the volumes of production and, correspondingly, the wage fund, from the plans. But can a product be unpromising if it sells well? It is not on the list of commodities in increased demand because at the time the list was drawn up the radiophonograph had not been developed yet?

Everyone has the right to monitor us for all items. For example, the Gosstandart. At one of the warranty shops we had a level of return of products of 6 percent (the norm was 4 percent). Without figuring out what had happened, they punished the plant by reducing its planned volumes, profit and so forth. We began to check and it turned out that 70 percent of the items in these documents had been incorrectly increased. But you cannot prove anything after the fact: the volumes had already been removed, we had already been fined and it was too late to straighten things out.

In order to do anything, to create anything, it is not necessary to have not only obligations, but also rights. In such a mobile production as ours we must always be updating the production base and raising the technical level.

But even if we have money, today we do not have the right to construct or tear down anything. Previously the director could sign a note for 500,000 rubles. But now even the minister does not have the right to do this. All that can be constructed are warehouses.... But we have enough of them! Do they really think that we at the enterprise cannot see what we need to construct, the more so since it is with our own money? We drew up a list for acquiring the equipment for 1980, but now it is outdated. In order to buy something new, we have to collect estimates, persuade people in the ministry.... And here we have lost our rights. When creating a base for the production of radio elements, we buy equipment from the ministry of the electronic industry which they have removed from production.

At the last meeting of the directors' club, above-normative reserves were discussed. Our turnover of material values is about 150 million rubles. I have the right to sell material values of only 100 rubles and then I must go to the ministry and prove the need for my actions, but nobody there wants to take responsibility for a decision under today's complicated conditions. And I now have 150,000 rubles' worth of nondisposable goods. They have lost any consumer value, but they are still included in the bookkeeping accounts. I cannot write them off, nor can I allow the supply workers to sell them as scrap or throw them away. I have had to put them in boxes and place them in the warehouses. How long they will stay there nobody knows.

In the same way, equipment is accumulated which has already paid for itself and been amortized. Previously we had the right to write off equipment for the state fund. Now that is prohibited and everything can be written off only for profit. Here arises a contradiction which can lead to bogging production down with outdated capital and to illegal exaggeration of the production cost. The time period for amortization that was developed according to the old approaches was 10-15-20 years, but the rates of updating of equipment are considerably higher today. We use 45 percent of the profit for these purposes, but if we were to write off everything, then it would be possible to "eat up" all the profit.

What kind of a management mechanism can there be today? I think that the mechanism for management will work only when the enterprise actually becomes a corporate body and its director is not nominal, but a trusted Soviet leader who, when dealing with material values, can do what he and the appropriate commission consider to be correct. But so far that confidence does not exist and the activity of the managers has been sharply reduced.

Here is an example: in the winter of 1985 in one of the rayons of the oblast, the sheep in the kolkhoz camps began to die. The secretary of the rayon committee came and asked me to sell them coal. I told them that if I sold it to them, my funds would be cut. They had to find other ways of getting help. And the two of us managers--party and economic--were unable to solve this problem....

Why am I saying all this? Everything is regulated for me! I am not a director and I am not even a robot with logic; I am a robot without logic, I have been programmed by somebody higher up, and I myself--am nobody.... I do not even understand how to further develop production! Yet if any director of

a good enterprise were strictly inspected in terms of existing instructions they would probably put him in jail because he would have violated all of them and if not then the enterprise would probably not be functioning.

**Rejoinder:** Today the ministers, managers of main administrations and directors are considered to be the main people guilty of the difficult situation that has arisen in industry. They also get the first blows. And Aleksandr Nikolayevich was right: after ordering the restructuring they all immediately became defensive and they are trying in all ways to ensure their own safety. Therefore it has become extremely difficult to solve the problems.

Soviet and party agencies have made their work much more active and as a result the number of distractions has become such that it cannot but be reflected in the work of the enterprises. A person must be glad to go to work and feel that he is a fully valued worker; the work should give satisfaction and joy to everyone, including the managers of the enterprises. But today whenever people go to work they are afraid: maybe there will be some order that will take a person away from work. This is experienced by the managers, the engineering and technical personnel and the workers. One time they may be constructing a trolley track and the next time a heating line....

**Third question:** Are there changes in interrelations with the ministries, with the financial, bank, supply and control agencies?

**Zh. F. Kryuchkov:** I have the opinion that everyone is trying to lead the enterprise and monitor it, but nothing helps. I think that we should have only contractual relations with the Gossnab. Otherwise the management of the territorial Gossnab agencies can always penalize us but we never can penalize them, even if they do not provide support for our production program. When they fail to provide raw or processed materials or batching items for our production program they blame the supplier; he is the guilty one. If you want to go there and make an agreement with him and bring back what you need. I think that somehow we must put an end to this one-sided love affair so that we too could both ask and penalize, and we could relate to each other in a human way. If a plant ends up in a difficult position it can expect no help from the Gosbank. Even if they meet us halfway, it takes a year to prepare the documents, to circulate them through all the levels of authority and to correct them. I think that the efforts of all organizations should be directed toward achieving good results in production. Today the enterprise has spread out in such a way that it has no corporate body. Local agencies can make it do things that are necessary or unnecessary, including in the area of material resources. We have turned all of them over to the gorispolkom even though this should not have been done. We are stealing from ourselves and hiding from ourselves.

We talk a lot about above-normative reserves. But they will continue to grow in the future unless we take measures. It is impossible to envision everything for a year or a five-year plan in the future. But so far we are in a hopeless situation: we cannot get rid of them or sell them. We can only hide them and accumulate them.

One more important problem. For many years I tried to save on the wage fund because if one overpays a person later it will be difficult to deal with him. If he has a bonus of 50 rubles and his earnings are 150, that will have an influence on him, but with earnings of 400 rubles he will not even notice a 50-ruble bonus. But now we have received new instructions which say that when changing over to the new system of salaries and wage rates, the wage fund is to be left as it is. This means that if you have pushed up your wages you will live in luxury in the future.

One comrade when speaking about today's condition of work for restructuring gave this analogy: if one were to take a long rope and attach a weight to one end of it, throw it into the water and shake it with all his might, large waves would appear on the surface but underneath this movement would not be felt. So far good decisions do not go all the way to the bottom.

V. G. Zavyalov, general director of the Sibelektroterm Association: I shall also begin with what is happening now. We have worked for 2 years under the conditions of the large-scale economic experiment. When the first of January 1986 came, the experiment was ended, and normal supply ended with it--and once again the main thing was the "rule": initiative is penalized. Everything returned to the way it was.

When changing over to the experiment we "shifted" from 86 supply positions to 16 and we lived comfortably. Therefore we reduced all above-plan reserves (they amounted to 3,000-4,000 tons). In the first half of 1986 we returned to the old positions and in the second half we were even forced to halt the production of a number of electric furnaces because of the lack of resources for the program.

The large-scale economic experiment envisioned three indicators: deliveries under agreements, labor productivity and production cost. But as early as 1985 in the reports of the ministry these receded into the background, deliveries remained, but commodity output and sales again made their appearance. It is necessary to fulfill the plan for deliveries under agreements, but we cannot because we are obligated to fulfill the plan in terms of commodity output, normative net output and sales. And since we have only one kind of product, all these plans do not always coincide. Therefore we are forced to manufacture products that are not required under the deliveries and refrain from producing new machines, which have immense labor-intensiveness.

In my opinion, profit is being distributed unfairly now. The enterprises are left with 21-23 percent of the profit and the rest goes to the ministry and into the budget. If you go to the Ministry of Finance and ask for funds to augment your own circulating capital, they will refuse. It is pointed out in the instructions that it is possible to withhold up to 25 percent of the profit and therefore they always take out precisely 25 percent. But how does one achieve above-plan profit under conditions whereby the production cost is planned from the base?

Now about the system of planning of the USSR Gosplan. For 6 years now the plant has had imported equipment valued at 5.5 million rubles that was

obtained under an intergovernmental agreement, but the client refuses the machine planned by the Gosplan. And neither the Gosplan nor the ministry is solving the problem of what we are to do with it, and our enterprise is bearing the losses. I think that only direct ties between "supplier--consumer" make it possible to make progress in creating new technical equipment and accelerating its manufacture and introduction.

Now about supply. The main thing, in my opinion, is this: it is necessary to put a stop to centralized distribution of funds. We shall have the state plan for 1987 in October of 1986 but orders for the Gossnab are required in March of 1986. We have discussed this repeatedly in the club and EKO has written about it, but nothing is changing. And so residuals of materials resources accumulate. At one time we worked directly with the supplier but now we are afraid to do this. They ask, Have you been assigned to my plant? If not, they have nothing to say to you.

The territorial administration has taken a course toward sorting, but it is too timid. There is now a reference list from which the head engineer can find out who has what surpluses of material values. But there is only one chapter with 5-10 lines about who produces what. And we receive this very late. We also need a reference list for surplus equipment, at least in the territorial administrations.

There is a very serious question about the interrelations between the Gosbank and the Stroybank in connection with the normatives in construction. In general everything is absolutely incomprehensible here. Technical reequipment is financed by one, material support--by another, incomplete construction--by a third, and so forth. The ministry just sits there: give us a report on the fulfillment of the plan for reconstruction. There is the excellent method of internal financing but we are afraid to create construction subdivisions: they will not have any work for who will provide their materials? My suggestion is very simple. There are regional representatives of the Gosplan and there is the Western Siberian Administration for Material and Technical Supply. So let them regulate problems of technical reequipment and material and technical supply in the region.

And one more paradox of restructuring: a most serious aspect is the new way of paying for the labor of designers and technologists. We have conducted certification, but what has it shown? In the institute and technological subdivisions, not a single manager nor a single designer or technologist has been eliminated. And when you talk to them they say: "Excuse me, Comrade Director, today I must send people to clean up the grounds, tomorrow for haying, day after tomorrow they are to work on the heat line, and who will I send if they reduce my staff by 10 percent? After all, we must work!" And what do you respond to him?

Rejoinder: At certain enterprises the question of above-normative reserves is being resolved in an elementary way: they do not allot the subdivision materials until they have sold their reserves. And where do they sell these reserves? They take them to the dump and dump them.... And if the Glavsnabsbyt Office were to take responsibility for solving this problem, that is, if they were to accept from the enterprises everything that they are not

using in production for various reasons, there would probably be a real savings and much would have to be shipped back to the Western Siberian region.

A. N. Shkulov: Today the system of material and technical supply by no means meets the requirements for acceleration of scientific and technical progress or improvement of quality and the effectiveness of work. In its instructions, it "builds in" a retardation of technical progress. For example, we have set the task of changing the household equipment we produce once every 2 years. This is required by the times and the consumer. But according to the construction we can order materials 2 years ahead of time: orders for the next year are submitted in February of the current year at a time when we have neither a plan or even developments. Trade determines its needs in May-July. And when all this happens it turns out that we are already late with the planned orders and must submit additional orders. They are filled using additional funds and it is not mandatory to fill them. This leads to incomplete deliveries which means above-normative reserves, marking down and so forth. Active elimination of these is again impeded by prohibitions on the sale and exchange of material values among enterprises.

What, in my opinion, must be done? First of all, we must develop the broadest long-term direct ties among enterprises and prohibit higher agencies from violating them. At present these ties are so flimsy that it is even dangerous to develop them. Thus our association concluded a long-term agreement for the development and delivery of components with one of the enterprises of the Ministry of the Electronic Industry. We use this as a basis for developing all of our household equipment for the 12th Five-Year Plan. But the ministry found a possibility of prohibiting our partner from fulfilling the agreement it had signed. We had to spend a lot of time and effort in order to put off this prohibition for 1 or 2 years.

In the system of material and technical supply, more weight and significance have been given to the Gossnab which has made a certain amount of improvement in the organization of supply. This agency should strengthen and significantly expand the range of its activity. But in the work of the Gossnab rights prevail over responsibility. Local Gossnab agencies do not bear responsibility for prompt provision of material resources in the correct assortment for the enterprises. They can either help or not without placing themselves in a responsible position. It is necessary to increase their responsibility for the fulfillment of the state plan not only in terms of volume, but also in terms of an extensive list of products in the necessary assortment and at the necessary times that correspond to the schedules for production.

B. V. Prilepskiy: If one looks at the documents that have come out since 1985 --I have in mind decrees of the CPSU Central Committee and the USSR Council of Ministers and plenum decisions--each line reflects our desires and hopes. But if you compare these with what the plants receive in the form of orders from the ministry or clarifications from the Ministry of Finance and the Gosbank, you seem many disparities. Have the rights of the industrial enterprise actually been increased? No.

It has been noted in the press that throughout the country accountability has been reduced by a factor of 2.5. But here are the figures for just one plant I know of. There they calculated that since 1986 the accountability for the plant has increased by a factor of 1.5. Moreover, this increase was achieved fairly easily. Previously, for example, three positions were marked (15 printed pages). Two were cut, but the third was increased, and the report now amounts to 150 printed pages. Previously they accounted for the production cost for the semester and the year, then it was quarterly, and now it is every month. Every plant worker knows what it means to report on production cost. Here is the kind of "change of costume" that takes place with the reports: in form it is reduced, but actually it is increased in all positions. The ministry, the oblast statistical administration, the Central Statistical Administration, and various other organizations, agencies and offices. It is possible to resolve something only by adopting the corresponding law: otherwise we will be smothered with reports.

There is no way in which the plants can be freed from the concept of a "base" which prevails both in the territorial agencies of the USSR Gosnab and in the ministry. While last year the plant received 15 machines, for the next year it will receive only nine, and not the 16 which are required. I know an enterprise where the notorious "base" forces them to keep no less than 3,000 tons of cement which are not being used at the present time. The manager is forced to commit this violation.

I agree with Aleksandr Nikolayevich: in fact both the ministries and the Gosnab are undermining direct agreements. A pump broke down but the engine remains; it could work for another 100 years. It would be good to sell it to a kolkhoz or sovkhoz, but we cannot. Thousands of these engines have accumulated at one of the plants of the city where they take them apart, remove the copper and send them for scrap metal. In spite of all the discussion, our situation with respect to economizing on secondary resources is poor. Few enterprises save paper, broken glass is not even mentioned, and yet at the chemical enterprises, for example, there is much of it and it is pure chemical glass. In the EKO director's club in Tolyatti (1986) V. I. Shcherbakov, division chief of the USSR State Committee for Labor and Social Problems, said that they were striving to motivate the industrial enterprise to economize on material resources. But the material incentive fund for economizing on material resources is again increased from the level that has already been achieved. What does this lead to? The fund will be less for those who efficiently dealt with this problem long ago. I think that it is necessary to orient ourselves not toward the percentage of savings, but toward the percentage of expenditures on similar items.

I. M. Selivanov: Has a restructuring taken place since the 27th Party Congress and to what extent? Individual elements of such a restructuring are noticeable. Executive discipline at the enterprises has increased. There is progress in solving social and domestic problems, in which the Ministry of Nonferrous Metallurgy was lagging behind the others. The accountability for failure to fulfill assignments is stricter and more in keeping with principles, but basically it still pertains to industrial enterprises. And the most disturbing thing is that the system of economic levers and incentive has remained the same. The old types of interrelations with higher branch

organizations, suppliers and consumers have remained the same. As a result, we still are not experiencing a large amount of progress in increasing the effectiveness of production. What is the basic problem here? There is a significant difference between the decisions of the party congress and what they are transformed into for the enterprises. Our comrades have already named the basic problem points. I shall discuss one more. There is an attempt on the part of the branch to replace real acceleration with acceleration on paper, and painstaking analytical work that is directed toward increasing the effectiveness of production with appeals to make instant progress in places where there is no material basis for this. We have received the technical plans for reequipment for the 12th Five-Year Plan. The economic effect from new technical equipment should be 1.5 million rubles a year. But this is unrealistic. Even enterprises that are much better than ours do not achieve such an effect. Moreover they have not envisioned the provision of any new technological developments or highly effective equipment. And we have no relations at all with the Stroybank when it comes to technical reequipment.

N. D. Matveyev: Unfortunately, many measures that have been envisioned recently are not being properly realized. The last wholesale trade fair that took place in Moscow shows that the ministries and departments are completely unprepared for changing their style of work and therefore the raw material is purchased in the old way. They are the same old materials which everyone is criticizing today, and the accessories are even worse than they have been in past years.

A. G. Aganbegyan: The discussion has shown that certain changes have taken place in the national economy. But they basically pertain only to increasing responsibility and demand for discipline through purely administrative methods. Yet the entire point of restructuring the system of management is to change from primarily administrative methods to economic ones. Inertia and the habit of administering under conditions of increased demandingness have produced a unique reaction: even a certain strengthening of the tendencies against which we are fighting. It is necessary to investigate the conditions of management for the enterprise and to guarantee it sufficient rights.

There is no doubt that we must fully abolish any gross indicators in the plan, which was discussed by M. S. Gorbachev at the June (1986) Plenum of the CPSU Central Committee. As many people think, state agencies should plan only the most important list of products, deductions into the budget and large capital investments. It is necessary to sharply reduce the number of planned indicators. And it is necessary, of course, to give the director the opportunity to dispose of resources because a great deal depends on this. The numerous examples that have been given here show that the director does not have these rights and this is completely inadmissible.

But the main problem that will have to be solved is the problem of how to turn production in the direction of the consumer.

The recognition of success and the incomes of the collective should depend on the degree to which public needs are satisfied so that no work is done without an immediate demand. Therefore it is extremely important to develop direct

ties and to leave the way open for enterprises to enter into various alliance with one another. The role of supply agencies is exceptionally important here, since they provide the system for these material ties. With respect to certain positions of mass demand it is necessary to change over to wholesale trade; with respect to others--to direct ties; and with respect to still others (when there is short supply)--the current funding should be retained, but this group should apparently be constantly reduced. It is necessary to envision more flexibility and greater possibilities of rejecting and varying products.

The question of material reserves occupied a fairly large place in the discussion in the club. This is the scourge of the country's economy. As calculations show, all the immense amount of work we are doing to economize on processed materials, fuel and raw materials are going into reserves and there is no advantage to the state. The total amount of reserves, if they are counted at all stages of reproduction, now amount to more than 400 billion rubles. This has exceeded any reasonable figures. These are simply weights on the feet of the state! In addition to general measures we also need special measures for reducing these reserves and accelerating the turnover of circulating capital.

It is necessary to reject old stereotypes everywhere and look on things from these positions: material values are produced only in production. Regardless of how important the Gosbank, the supply systems, the financial agencies, the State Committee for Labor and Social Problems and the Gosplan may have been, they can produce nothing in principle. But they can create good conditions for production, or accommodate it or take a neutral position (stand to the side).

The task is to make sure that these agencies work in production and for production and create economic and social conditions whereby production operates efficiently and well. And the criterion for this work is how production is operating and whether or not conditions have been created whereby it can work well and efficiently and produce what the society needs. If such conditions have not been created it means that these agencies have worked poorly. There are no other criteria: how many inspections have been conducted, how many violations have been revealed, how many instructions have been prepared, whether or not the people are going on business trips.

One must say that the situation has been changing recently, although this is not happening as rapidly as we would like it to. It is extremely important to achieve a psychological breakthrough. We know the Marxist tenet that the idea becomes a material force when it is assimilated by the masses. Apparently a process of assimilation of new ideas is now taking place. During the course of this work our country has achieved a certain acceleration in economic development. Before the April Plenum of the CPSU Central Committee, the growth rates of industrial production were 3-4 percent a year and those of labor productivity--2-3 percent per year. Since the April Plenum we have reached 5 percent in industry and during the 9 months of 1986--5.2 percent, and the growth rates of labor productivity for these periods were 4.5 percent and 4.9 percent, respectively. The growth of agriculture has also accelerated and construction and railroad workers have begun to work better. But we must

not exaggerate. So far only superficial reserves have been used. Therefore it is necessary to dig deep and mobilize other reserves.

There is probably no reason to wait for anything; a good deal can be done right now. This is shown, for example, by the experience of the Berdsk Radio Plant, where we have gathered today. We should not forget that initiative is recognized under the new conditions. This is shown by the personal experience of our host: the title Hero of Socialist Labor was recently conferred on him.

At the festive meeting devoted to awarding Vladivostok the Order of Lenin, General Secretary of the CPSU Central Committee M. S. Gorbachev said: "It is naive--and harmful--to assume that as soon as indicators in the economy have increased and our activity has been restructured, that everything will proceed at full speed ahead everywhere. This is far from the case, and in a number of regions of the country and branches they are still only talking about restructuring. And things have not begun to change."

"But it is equally inadmissible to give in to the difficulties of restructuring or to the resistance or indifference of those who have become accustomed to living by inertia and working in the old way. It was correctly emphasized at the 27th CPSU Congress: We are beginning a complicated task and we are setting for ourselves realistic but difficult goals whose achievement is possible under the condition of continuous training in life and constant interpretation of its experience, lessons and new aspects."

Meetings like the one that took place in the EKO Directors' Club contributed a great deal to the interpretation and the determination of the stage we are in at the present time.

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## IMPORTANCE OF SUPPLY DELIVERIES STRESSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 72-84

[Article by B. A. Kustov, director of the Western Siberian Metallurgical Combine, and N. I. Novikov, secretary of the Obkom of the Trade Union of Workers in the Metallurgical Industry (Novokuznetsk): "Deliveries--100%!"]

[Text] Even today there are frequent cases in which the supply enterprises in their campaign to fulfill the plan produce some products that are not ordered. The result is that the unplanned products sit in the warehouses as "frozen" cargo and the production of the consumers suffered. One would not call metal an unmarketable commodity. It does not pile up in the warehouses. But because of the fact that the demand for it is high, the consequences of the failure on the part of metallurgical enterprises to fill orders are even greater. Some of them end up without any processed metal at all, and they cannot produce their products. Others, having received rolled metal of a larger diameter than they ordered, are forced to discard a significant proportion of the metal in shavings when they process their products, and still others resort to replacements and utilize metal products with quality and durability characteristics that are higher than planned until they can get the kind they need.

Metallurgists, of course, have considerable problems and difficulties with the fulfillment of contractual commitments. The large numbers of the consumers, the small orders, the irregular delivery of railroad cars, the imperfect planning and so forth. Thus the Western Siberian Metallurgical Combine--one of the largest suppliers of rolled metal--provides products for more than 7,000 industrial and agricultural enterprises and construction projects of the country, it provides blank pieces for other plants of the Ministry of Ferrous Metallurgy, and it fills orders for exports. Frequently, especially at the end of the quarter, "pushers" come to Zapsib from all corners of the country and sit in the waiting rooms of the managers for only one purpose: "To scare up" the rolled metal that has not been delivered according to the order schedules.

It would be possible to change the situation and achieve complete filling of orders of consumer enterprises only by restructuring the management of production--from an orientation toward fulfillment of the plan in tons to

filling each and every order. In recent years a good deal has been done to achieve this. The work of production subdivisions and services of the combine for meeting contractual commitments has been enriched by new forms and methods and has become more purposive. What are the major changes? Let us consider them.

#### Organizational and Management Decisions

The metallurgists say: "What has been smelted has also been rolled." And this is indeed the case. The possibility of fulfilling the order for rolled metal is included as early as the stage of steel smelting production. Therefore a most important task is to improve the juncture of steel smelting and rolling production and to strengthen technological discipline.

The centralized dispatcher staff in the production management division, with its general burden of troubles, can miss certain special problems in dispatching work of productions. Therefore it was decided to create a dispatcher group called "steel--rolled metal." It includes the senior dispatcher and four shift dispatchers. Along with the railroad dispatchers of the Vostochnaya and Stalnaya stations they check on the loading of converters with scrap metal, and the feeding in of lime, ferrous alloys and smelted steel into the blooming mills. It is not enough to smelt steel--it is necessary to put it into the blooming mill in such a way as to lose the least amount of time and temperature and, consequently, to lose the least amount of fuel and money for heating it up again for more rolled metal.

The chief of production at the combine begins his work day not in his office but in operations conferences with the managers of associated productions right on the spot so that he can make sure that everything is normal at these junctures or immediately take measures if deviations have been revealed. First he comes to the Vostochnaya Station (the "steel-rolled metal" dispatcher group sits here), familiarizes himself with the situation, analyzes the results of the work of the night shift, and makes immediate decisions. At 8:30 in the morning he goes to the Stalnaya Station through which the smelted metal is transferred to the blooming mill--to press out the steel bars. Here the leaders of the converter shops and the swagging shop, the supervisors of the night shifts, the head steel smelter, the head rolling mill operator and the railroad dispatcher responsible for transferring the smelted metal to the rolling production all gather at operations meetings. Decisions are made on the spot regarding the elimination of breakdowns and other problems in production.

Every 2 weeks the combine director holds a conference on problems of filling orders and once a month he discusses the course of the fulfillment of deliveries along with the managers and specialists of the territorial administration Kuzbassglavsnab.

What has been done to strengthen technological discipline? In solving this problem we have partially taken advantage of the experience of the Magnitogorsk Metallurgical Combine, which has been written about in EKO. (Footnote 1) In the main shops of Zapsib we have introduced a system of issuing coupons warning workers and brigade leaders, foremen and senior

foremen who have allowed violations of production technology. The violations are discussed by the managers of the shop and for each case the appropriate administrative or economic measure is taken. The chief of the division for technical control each day reports on the intercom to the management of the combine about how many warning coupons have been issued and in which shops. Each shop manager when making his report about the state of affairs must report the measures that have been taken against the violator of technology. As a result the number of violations of technology decreased by 12.8 percent in 1985 as compared to 1984.

The chief of the division for technical control also reports on the intercom each smelting that is not done according to orders. Accounting for each ingot and analyzing the metal in the oxygen converter furnaces are a very important aspect. In smelting they do not always manage, as they say, to "get right on the mark"--make precisely the given formula. Strict accounting for each ingot and analysis make it possible to reassign the metal on the spot so that it can be used for other orders. Therefore it is always necessary to have variants of other orders. At the same time measures are being taken for a higher level of utilization of billets for their intended purpose. A system has been developed for motivating engineering and technical personnel of converter production and brigades of steel smelters to use ingots for their intended purpose at a level of 92 percent and more. Of course certain sanctions are imposed against violators of technology who are at fault for producing the wrong formula. But the reasons for deviations from the formula can also exist outside the competence of the brigades, for example, it could be poor quality of the scrap metal or other components in the smelted metal.

The next important aspect is improvement of functional ties among management services, on whom strengthening of delivery discipline depends. EKO has written about the experience of the Moscow ATE-1 Plant (Footnote 2) which in the process of solving the problem took the path of strengthening the sales service and its influence on production. At Zapsib other methods are used to achieve the same goal. We have strengthened the influence of production over sales. Sometimes considerable misunderstandings have arisen because of the fact that the sales workers have accepted orders that are impossible to carry out or that cannot be carried out at the given time since they are not coordinated with the capabilities of production or with the schedule for operation and repair of equipment. At the combine we decided that it was possible to bring the interests of the production and sales services closer together only on the basis of involving sales in the affairs of production. To do this the sales division was placed under the functional jurisdiction of the production chief. Now not a single agreement for delivery can be concluded without the production chief. There have been fewer cases of the lack of coordination.

Because of the strengthening of contacts between the sales and production services we have managed to introduce a better system of planning of the fulfillment of orders that is based on the principle "From the overall volume of products produced--to a precise schedule of filling of orders." At the present time production planning taking into account the profile of the orders is done for the month, week and day.

The main document by which we accept orders is the record of the loading of production which is coordinated with the Ministry of Ferrous Metallurgy and the Gossnab agencies. The operations planned for production and deliveries is drawn up on the basis of schedule-orders that are accepted for fulfillment and contracts with consumers that have been changed over to direct long-term economic ties, taking into account the calendar time of the operation of rolling mills and the time periods for current and capital repair of equipment.

During the 30 days before the beginning of the quarter the enterprises that receive products from Zapsib, on the basis of funds earmarked by the Gossnab, send us specifications for rolled metal. What are these specifications? They are documents which indicate the quantity and assortment of rolled metal. The sales division at least 15 days before the beginning of the month sends them to the production-disposition division. The data from the specifications are entered into the data bank of the computer center. After this they become the basis for accounting and control right up to the point of the dispatch of the products to the consumer.

Each day the sales division checks on the loading of metal and reports the state of affairs to the production chief who uses the data he receives for taking on-the-spot measures.

The role of the combine's legal division has increased significantly in improving the work for deliveries. With an order for the entire combine it established the regulations for contractual and complaint-prosecution work; it stipulated the policy for the movement of documents, and it clarified the functional duties and the responsibility of workers of structural subdivisions in all stages of concluding agreements and organizing the fulfillment of commitments. Agreements with consumers are concluded with the direct participation and supervision of the legal division, regardless of whether these pertain to direct economic ties or the delivery of products through the Soyuzmettlosnab Administration of the USSR Gossnab. Priority here is given to agreements for deliveries of products in keeping with direct long-term economic ties. While in 1982 the combine concluded 192 direct agreements for a total of 33 million rubles, in 1985 it concluded 219 of them for a total of 65 million rubles.

Although both the forms of the agreement and the time periods were established a long time ago by Soyuzmettlosnab, the clients frequently fail to meet the deadline for sending us the specifications, or they send them on the wrong form, which impedes operational calendar planning a great deal. Previously the sales personnel and the legal experts did not check up on this very much and frequently excused negligent clients, and the combine suffered from this since it did not have the possibility of filling orders on time. Now prosecution and complaint work have been regulated and the fines have forced all clients to be very responsible about their contractual documents.

One piece of evidence of the stabilization of the combine's work for fulfilling contractual commitments is the reduction of the number of fines paid for late delivery and shortages in the deliveries of metal products. Thus during 1984 as compared to 1983 the sum of fines that were paid decreased

by a factor of 3.5. In 1985 it had decreased by a factor of 2.5 as compared to 1984. And the sum of fines could be reduced even more were it not for paradoxical situations that arise in the economic ties and planning.

The USSR Gossnab submits schedule-orders to the combine according to the old carload norm--68 tons, but the Ministry of Railways in March of 1985 increased the carload norm to 75 tons. Now, in keeping with railroad regulations, the metallurgists pay for underloading 7 tons, 70 rubles in fines for every carload. During the month the fines add up to a total of about 3 million rubles. Well, is this not a paradox: the level of fulfillment of deliveries for the combine each month is 99.9-100 percent, but the sum of fines amounts to millions of rubles! But if we were to meet the requirements of the Ministry of Railways and load the cars at 75 tons, some of the consumers would receive surplus metal, and we would have to postpone the delivery date for others. Such a practice can lead to a situation where some of the orders go unfulfilled. Regardless of whom the combine turns to--the Gossnab, the State Arbitration Board, the USSR general procurator, the Ministry of Railways or the Ministry of Nonferrous Metallurgy--so far there have been no results. The lack of coordination of the instructions of the two departments has become a serious impediment to our work.

In addition to improving the control of orders at the level of the enterprise, we need measures at the level of the national economy.

#### Computer Equipment in Controlling Deliveries

Zapsib's 7,000 clients form its portfolio, which consists of no less than 15,000 orders a year, and each order has 2-3 kinds of products so that the result is much more than 30,000 entries. Planning, accounting and control of deliveries on such a large scale are impossible without the utilization of computer equipment. Therefore the combine attaches a great deal of significance to the introduction of an automated system for control of production and deliveries--the ASU "Zakaz" [order].

Operational calendar planning has been transferred to the computer. The complex of tasks has been created for forming the monthly work schedules for the basic shops--it is called "steel smelting." The variants of loading equipment are formed taking into account the major criterion--the time shortage. PRO [production management division] workers have been given the opportunity to verify on the spot the substantiation of various management decisions. For example, how do changes in the time periods for repair and changes in the level of reserves of blank pieces for the machine tools affect the work schedules of associated metallurgical units? What is the sequence for the production of individual kinds of rolled metal? Is it possible to use metal that has not been smelted according to PRO orders to fill other orders and in what quantity? The ASU provides answers to these questions. This same subsystem is used for constructing schedules from any day until the end of the month. If there are arrears in some places, it quantitatively determines the level of difficulty of the daily assignments for individual units and units associated with them. Having all of this information the PRO has the possibility of considering variants and selecting the most preferable.

A system has also been introduced for automated formation of weekly schedules for coke-chemical, agglomerate, blast furnace and steel-smelting productions. That is, in places where the shops already have their own ASU and ASUTP systems (in the majority of basic shops), where they have gauges for providing information and where there has been no difficulty applying automated formation of weekly schedules. The attempt to introduce the subsystem for weekly planning for primary (blooming) mills and rolling production has not yet been successful since we have not managed to achieve regular and prompt collection of information concerning the condition of the storehouses of prepared products, the holding furnace division or the gold ingot warehouse. Because of the fact that the functional capabilities of our ASUTP's and ASUP's continued to expand, it will eventually be possible to perform these tasks.

A system is now being prepared for operational shift-day regulation. This will be the second section of the ASUP whose introduction is earmarked for 1987.

The ASU "Zakaz" will also include a subsystem that is now being formed-- "Sbyts" [sales]. A complex of problems is already being solved concerning the distribution of quarterly volumes of deliveries among the various months on the basis of information introduced into the computer concerning order-schedules. We have called this "Zanaryadka" [schedule-order issuance]. In the future it is intended to provide all the subdivisions (shops and divisions) of the combine with information that characterizes the portfolio of orders in various cross-sections.

The second complex of tasks of the subsystem "Sbyt," which is called "Otegruzka" [shipment] makes it possible to obtain information on the spot concerning fulfillment of orders for the preceding period and to fill out payment documents to the bank. Each day by 10 in the morning this information for the preceding 24 hours comes into the PRO and sales division. It is formulated on the basis of certificates of shipped products, railroad receipts and bills of lading.

The use of computer equipment has increased the efficiency and reliability of information and has made it possible to achieve unity in reports on operational and bookkeeping data. By 1989 the ASU "Zakaz" should be fully introduced.

Up until 1985 all information was issued on paper. Now the computer center has changed over to issuing information on display terminals. Systems have been created for depicting data on a realistic time scale. Since 1986 about 50 forms of various information documents have been produced on the display terminals.

So far the combine has only two display terminals that show data from the ASU "Zakaz" in the sales division and in the production management division.

The creation of an information base for the ASU "Zakaz" so that it will operate in a real time frame and be shown on the terminal is an important condition for the organization of the production management and sales divisions. Now the PRO engineer operates only one machine tool. After the

work is changed over to the computer he will be able to control four machine tools. To do this it is necessary to have personal computers. Unfortunately, the country has not arranged for mass production of these. This makes it impossible to bring automation of management to its logical conclusion. It turns out that the computers make life easier for the personnel but it is necessary to retain the previous organizational structure because of the lack of development of the network of personal computers. Many enterprises have already encountered this problem. It requires the most rapid solution.

#### Economic Incentives

The strengthening of delivery discipline and increased responsibility for this as well as interest in 100-percent fulfillment of orders require improvement of the methods of economic incentives for production and economic activity. First of all the provisions concerning bonuses were revised so that the labor collectives and specialists were encouraged in a differentiated way, depending on their concrete contribution to the filling of orders.

Since 1984 at Zapsib there have been provisions in effect for workers in general combine services whereby when orders are fulfilled by less than 100 percent (up to 99 percent) the bonus is reduced by 10 percent. If the orders have been fulfilled by 98-98.9 percent, the amount of the bonus has been reduced by 30 percent. When the orders are filled by less than 98 percent, the bonus was not paid at all. Therefore in 1986 the personnel were quite ready to change over to the new conditions of planning and economic incentives which were introduced throughout the branch. The coefficient of increase--15 percent with 100 percent filling of orders--turned out to be higher than it had been previously, but the coefficients of decrease at the combine were even stricter and contributed to a significant improvement in delivery discipline. By 1985 Zapsib workers had approached the level of fulfillment of deliveries from 99.9 to 100 percent.

At metallurgy enterprises under the new conditions of management a unified material incentive fund (YeFPM) is formed using money from the material incentive fund (it is formed according to established normatives) and other money intended for bonuses (except for the wage fund). What are these sources? They include 50 percent of the value of metal saved in the national economy by increasing the production of economical kinds of products as compared to the preceding year at existing production capacities: 35 percent of the profit obtained from the sales of products for production and technical purposes manufactured from production wastes in excess of the level reached in the preceding year; for the creation and introduction of new technical equipment; increased output of consumer goods per ruble of wages, and so forth.

Before the changeover to the new conditions we had our own intracombine conditions for bonuses which provided incentives for economizing on metal and producing economical kinds of products. As a result, recently there has been a considerable increase in the production of rolled metal from low-alloy steels, thermally tempered rolled metal, thin-walled girders and channel bars, low-carbon wire for construction elements, and so forth. Thus the production of low-alloy steel had increased by 12 percent in 1985 as compared to the 1980

level and the production of thermally tempered rolled metal had increased by 55.5 percent. Now on all the machines except the wire mill, we have thermal tempering technology. Today Zapsib produces more than 500,000 tons of this kind of rolled metal a year for the needs of the national economy.

Previously when accounting for the volume of products in physical tons it was not advantageous to produce economical but labor-intensive kinds of products. With the introduction of the new indicator of accounting into the branch--in converted tons--the combine loses nothing in volume, regardless of how labor-intensive the ordered metal may be. The new indicator for accounting contributes to increasing delivery discipline.

Wages and bonuses previously depended on the fulfillment of volumes of physical tonnage. Quite naturally, the enterprise and the shops were interested in producing the less complicated but more metal-intensive profiles of rolled metal. It frequently turned out that the plan and the socialist commitments of the enterprise were fulfilled, but the orders of the national economy were not. Accounting in converted tons has precluded this disparity. How has this been organized? One of the profiles of rolled metal is taken for a standard and the coefficient of its production is equal to "1." The coefficient of other profiles is calculated taking into account the labor-intensiveness of their rolling. Complicated profiles and rolled pieces made of construction metal have coefficients of more than 1 and those that are less complicated than the standard--less than 1. Thus the collectives of the shops are ready to roll a profile of any complexity, taking into account the schedule for loading the machine tools, since the payment and the incentives are based on the results of the rolling in converted tons. The clients in the national economy as a whole have achieved a great advantage from this since no rolled metal is advantageous or disadvantageous for the producer.

In the oxygen converter shops the filling of orders depends largely on the foremen and shift chiefs. In order to increase their material incentives provisions were developed for additional bonuses for foremen and shift chiefs, depending on the level of fulfillment of the schedules for smelting steel for orders.

Incentives for the brigades of the converter shops were also made directly dependent on the level of the filling of orders. The basis for the payment of bonuses are the certificates issued by the combine's PRO.

The combine has created and put into effect systems of bonuses for the high temperature of the delivery of the liquid steel to the blooming mill. The goal is to deliver the metal at a temperature of 860 degrees, which is the norm for the operation of the cogging mills. The railroad shop is given incentives for the readiness of steam engines and the acceleration of repair. Bonuses for collectives of the converter and rolling shops are also made dependent on the quality of the products that are produced.

#### Competition

Understandably, any large-scale restructuring of the works can produce results only when it is supported by the collective, when people know its goals and

are prepared to achieve them. The organization of political-educational work and socialist competition is a necessary constituent part of the entire program for strengthening delivery discipline.

The conditions of the competition are purposively oriented toward 100 percent filling of orders. The results are summed up each week and for each month.

In order to determine the winner in the weekly competition the following indicators are considered: in the coke-chemical shop--rhythmic work, the fulfillment of the given volumes of production and the shipment of products; in the sinter-lime shop--the meeting of production schedules for sinter and lime; in the blast furnace shop--the meeting of output schedules for iron in keeping with the given formula and in converter shops Nos 1 and 2--the meeting of schedules for smelting steel for orders, and in the blooming, light-section, medium-section and steel wire shop--the meeting of production schedules and orders for commercial rolled metal and wire.

The monthly results are summed up for the following indicators: the filling of orders from the national economy by 100 percent, and the fulfilling of indicators for product quality and socialist commitments.

From the results of the work for the week the winning collective reports to the director of the combine along with the managers of the shops and they are awarded the challenge pennant. The results of the competition are published in the in-house newspaper, METALLURG ZAPSIBA, and they are posted on special stands.

The monetary bonus of the collective that wins the competition is increased by 10 percent for each week it wins. The collectives that have held first place in the competition for three months in a row are awarded the certificate of honor from the directors, the party committee, the trade union committee and the Komsomol committee. The sum of the quarterly bonus for them is increased by 25 percent.

An effective form of competition that originated under the new conditions is the conclusion of reciprocal agreements among associated collectives that are technologically linked to one another. The associated shops conclude reciprocal agreements for competition along the technological chain "coke--sinter--iron," "iron--steel," and "steel--rolled metal." Auxiliary and transportation shops are included in the competition of associated shops. For example, the agreement of associated shops at the juncture "steel--rolled metal" is concluded among collectives of converter shops, shops for preparing mixtures, the scrap breaking shop, the shop for preparation of steel smelting production, the railroad shop and the cogging shop. The purpose of the agreement is to strengthen mutual responsibility and provide for effective work on the part of the associated workers. It increases mutual interest in the results of the work and makes it possible to reduce intrashift losses of working time.

Improvement of all work at the combine for 100 percent filling of orders from the national economy and the persistent search for reserves by participants in the competition have made it possible to achieve certain results in

strengthening delivery discipline. A confirmation of this is the fact that during all of 1986 the collective of the combine filled all orders from the national economy for rolled metal by 100 percent.

#### FOOTNOTES

1. "Magnitka: Discipline and Responsibility," EKO, No 12, 1979.
2. "The ATE-1 Plant: Stability of Production--Stability of Deliveries," EKO, No 8, 1984.

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## IMPORTANCE OF TRANSPORTATION DEVELOPMENT FOR INDUSTRY STRESSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 85-99

[Article by I. I. Baranov, first deputy chief of the Northwestern River Shipping Line, and A. L. Mazo, candidate of economic sciences, chief of the Laboratory for Scientific Organization of Labor (Leningrad): "Success in the Development of Transportation--A Guarantee of Success in Industry"]

[Text] New conditions for management went into effect in the transportation branches in 1986: three shipping lines in the maritime fleet have been changed over, the entire branch of the river fleet has changed over, and the new methods of management are being introduced on individual railroads of the Ministry of Railways. This the beginning of significant changes in the work of the transportation branches.

At one time Academician S. G. Strumilin noted that in its development transportation should outpace the real increase in the needs for shipments since the national economy's losses from a lack of transportation are many times greater than the actual losses within transportation. Economic practice shows that the goal of the development of transportation is not only and not so much to increase cargo turnover or reduce transportation expenditures themselves as it is to increase the effectiveness of transportation service for other branches of material production and the nonproduction sphere: the reduction of various kinds of losses, spoilage, reduced costs of industrial and agricultural products, and the creation of additional incentives for the development of the economy.

### Increasing the Mutual Responsibility of the Cargo Shipper and Transportation

The system of annual planning in effect in transportation is based on orders from the cargo shippers which are sometimes economically unsubstantiated and materially irresponsible. The annual shipment plan drawn up from these orders does not correspond to the capabilities of the shipper but nonetheless serves as a basis for calculating all the directive indicators and measurements of the work of the transportation organization. And when it becomes clear that the order was made too high (as a means of insurance) and was not covered by real cargo, the transportation organization begins to search for its own cargoes, thus artificially increasing the demand for transportation work.

Here is a clear illustration. Each year 200,000-250,000 tons of cargo planned for shipment by the steamship lines in excess of what the forestry workers can procure and dispatch from trips of the Volgo-Balta. During the five-year plan this figure was 1.3 million tons. We were forced to "cover" the timber with sand with shipments on credit and for sale, thus becoming involved in underhanded business practices since the motto "The Plan Is the Law" made it unrealistic to adjust it. In 1985 we shipped 1.5 million tons of gravel from the Pitkyarant Mine which is on Lake Ladoga. And suddenly we received an order for 1946 from the Moscow Gorispolkom which has jurisdiction over this mine administration for the shipment of 3.5 million tons. The steamship line for which this figure is included in the plan, along with all the ensuing consequences begins to try to figure out what happened: perhaps new loading capacities had been introduced or additional resources had been allotted?

It turns out that it was neither the one nor the other. They had simply given the order, as it turned out, "just in case," so that "the river workers would not be likely to let them down." And only after our insistent demands and lengthy proof did we receive a telegram: "Because of the failure to allot capital investment we ask that the order be changed...."

One should not allow the shipment plan to be established before the production plan has been fulfilled and agreements for shipment have been concluded. This situation seems to us like the relations between industry and trade with respect to the production and sales of consumer goods. It is necessary to clarify the mutual responsibility of the cargo holders and transportation for providing cargo or rolling stock. The lack of perfection of relations between transportation and clients not only generates mutual irresponsibility but is also reflected in the effectiveness of the development of the two sides.

Also involved in the improvement of relations between ministry and transportation is the creation of a system of economic and legal responsibility of higher management agencies to industrial and transportation enterprises for the quality of plans, their balance and their scientific and material-technical substantiation.

And this is not merely a matter of what is wrong with planning from the level that has been achieved. The fact is that those who do the planning are outside the field of responsibility for quality, timeliness, balance, comprehensiveness, substantiation and stability of plants. The lack of responsibility (material and legal), material incentives and levers in the work of higher agencies of state and economic management have led to a disharmony in economic relations along the vertical and have entrenched in an arbitrary method in the planning system, in other words, the higher levels are irresponsible with respect to the lower ones.

It is no secret that planning "from below," which has been discussed so much lately and has been envisioned in the Law on Labor Collectives, remains on paper so far. But the control figures of the plan, which are frequently not backed by resources, are not intercoordinated and do not take into account the dynamics of demand are "sent down" from above very late and the lower levels do not have the right to adjust them. Such planning is not only useless but

also harmful. Transportation organizations are very much aware of this since each year an increase in cargo turnover is planned without being backed by orders from clients.

It is necessary to change over to a system of contract-orders with mutual commitments. Let us emphasize: these are contracts not only with suppliers and associated agencies, but also with higher agencies which must share the responsibility if necessary. In other words, those principles on which the collective contract is based and which are so far being realized only at the level of the brigades, must be augmented by cost accounting [khozraschet] and be disseminated from below to above at all levels. This requirement pertains not only to transportation but also to industry and is, in our opinion, mandatory for balance in the work of all branches of production.

#### Reference Point--Satisfaction of the Demand for Shipment of Cargo

With the changeover to the new conditions for management the system of evaluation indicators in transportation has been refined. The most important criterion for completeness and effectiveness of transportation service is the indicator of the volume of shipments of cargo in tons, including commitments under agreements which reflect to a greater degree the satisfaction of the needs of the national economy and the population for shipments than was the case heretofore. Of course, neither ton/kilometers and certainly not passenger/kilometers was suitable for this role. Life and practice have predictably rejected them as evaluation indicators, while leaving them as calculation indicators. It is more difficult to determine whether or not all the cargoes of the national economy have been included in agreements or whether transportation has not left behind cargoes that have been submitted for shipment but are disadvantageous, inconvenient or too labor-intensive for shipment. We still have to work on this.

Speaking about the new indicators that have come to replace the old ones, we would like to touch upon an extremely serious and, one might say, a fundamental issue. It seems to us that we must speak not simply of replacing or reducing the number of planning indicators, but of improving the entire system of relations that are oriented toward achieving the final results. Many executives justifiably refer to the abundance of directive indicators which, figuratively speaking, "break" production into pieces and detract from the main task--satisfaction of the demand of the population and the national economy for shipments.

Practice shows that increasing the number of indicators and making control more detailed only contributes to the manipulation of individual ones which are frequently contradictory and even preclude one another and also covering up irresponsibility. The multitude and diversity of indicators limit the initiative, narrow the maneuvering of resources, impede the growth of effectiveness and, as a result, reduce responsibility for the final result. For example, in our steamship line we have 59 directive indicators and the number of them continues to grow.

How can one not recall here the correct remark by the general designer of aircraft, O. K. Antonov, who said: "Indicators are being transformed from a

subsidiary instrument of management into autocratic dictators that are subordinate neither to the enterprise nor to the main administration which lose sight of common sense, nor to appeals for conscientiousness nor to convincing economic calculations" (SOTSIALISTICHESKOYE SOREVNOVANIYE, No 4, 1983).

But no matter how much we complain about the abundance of these, they are only a manifestation of today's planning system. By abolishing today the "ton-kilometers" as an evaluation indicator without planning "passenger turnover" along with them, by removing reports on a number of other indicators but still retaining the system of planning that is not based on agreements and orders, but "on fact," after a certain period of time we will obtain this same piling up of indicators. And this is not an unsubstantiated assertion--this has happened repeatedly in our economic practice. For if the plan is not balanced and is not formed on the basis of agreements, in order to check on its implementation one needs an entire complex of indicators that take into account, trace, analyze and so forth. And the ton-kilometers that were about to disappear reappear like mushrooms after a rain (and along with them long-distance and back-and-forth shipments), passenger turnover (and along with it the short runs which are disadvantageous but are so necessary for recreation on Lake Valaam and Lake Kizha) and so forth. The more so since the boundary between directive and calculated indicators is sometimes so illusory that translating the one kind into the other does not change anything either in statistical reports or in responsibility or in the number of calculations.

Therefore we are speaking not simply about replacing or reducing the number of indicators but about improving the entire system of management and its orientation toward the final result, that is, satisfaction of the demand for shipment.

Plans, in our opinion, should be a form of concretization of economic agreements and not vice versa. The sequence of planning should be as follows: the primary things are the contractual commitments, which stipulate the conditions for shipment, the time periods, the sanctions, and the mutual responsibility, and they determine the plan for deliveries. The latter determine the plans for production and its provision with material and technical resources. From this follows the need to refine the time periods for planning shipments. These plans, formulated on the basis and according to the sum of agreements for shipments, are approved after the plans for production of industrial or other products, material and technical supply and consumption, taking into account the distribution of cargo shipments among the various kinds of transportation. Today all this happens in the reverse order.

#### More Instructions--Less Independence

All the increasing numbers of regulatory and normative documents that are by nature for clarification in the final analysis imperceptibly limit and then abolish those that were previously issued. There are frequent cases in which one document contains mutually contradictory instructions.

Here is a clear example. The provisions concerning bonuses for workers of enterprises and organizations for the creation and introduction of new

technical equipment establish on the first page the amounts of bonuses, which are linked to the effect from the proposed measure. On the page after the next they envision deductions for new technical equipment depending on the wage fund of the enterprise which are in no way linked to the first page. As a result, the most probable provision is one whereby the overall sum of deductions for new technical equipment for the enterprise is less than the amount of bonuses for one proposal. The provisions go on to say that from 50 to 75 percent of the calculated sum (for some reason this percentage is always 75) should be given to the ministry. And a year later the Gosbank publishes a document according to which 25 percent of the funds deducted for new technical equipment and still remaining at the disposal of the enterprise must be deposited into the budget. As a result, there are practically no funds for new technical equipment at our enterprises. And this lack of funds suffocates the creative activity, initiative and innovation, and these are replaced by passivity and indifference to the most important element of the motive process--new technical equipment and technology. What kind of "initiative" and "innovation" is this if they allot for it an average of 70 kopecks per person per year!

The next example. In March 1975, with the agreement of the Gosplan, the Ministry of Finance and the Russian Republic Office of the USSR Gosbank, they establish the "Provisions Concerning the Steamship Line (Production Association) of the RSFSR Ministry of the River Fleet." According to Point 102 of these provisions, the transportation enterprises included in the steamship association were granted the right to use the savings on the wage fund they had received in preceding quarters and months for subsequent quarters and months of the same year.

Taking into account the seasonal nature of the work of the river fleet, this right enables transportation workers to arrange their work more effectively and purposively in order to satisfy the needs of the national economy for shipments. But the Russian Republic Office of the USSR Gosbank in Letter No 131060 of 19 August 1976 unilaterally abolished Point 102 of the "Provisions Concerning the Steamship Line."

A strange picture obtains. If the enterprise has allowed an overexpenditure of the wage fund during some planning period of the year, it is penalized, but if it has achieved a savings, it is...also penalized since the part that is saved is essentially taken away from the enterprise. For some reason it is thought that the association itself is not capable of correctly distributing the fund among the quarters within the limits of the allotted annual amount and that the leaders of transportation enterprises, who have been trusted with resources worth many millions, have not mastered economic strategy and tactics.

Or there is the example of the formation and policy for calculating the economic incentive funds that originated along with the reform of the 1960's. Everything seemed simple, convenient and correct. There is a base, in other words, a "beginning" from which all development of the steamship line and all accounting for its indicators proceed, there are normatives developed by science for the formation of funds, there are planned and then also the actual rates of increase of the fund-forming indicators which are considered to be

final. Improve your work, increase the effectiveness and the final result-- and you receive what you have coming. But that did not happen! During the past 10-12 years when calculating the funds the "base," normatives and policies for bonuses change so many times, with stricter conditions each time, that the connection between them and the final result was either lost or it became so complicated that it was practically impossible to understand not only for the workers and the shipping crew, but also the managers of enterprises and associations. Thus for our association during the past 10 years with an increase in the volume of shipments by a factor of 1.5, the material incentives after many adjustments and equalizations were decreased by 31 percent.

We think that it is necessary in general consider the expediency of the existence of such a fund. Since it is formed from profit it reduces the value of the actual outlays and the production cost of the products. Since the bonuses of workers come from both the wage fund and the material incentive fund, there are disparities in its expenditure. This fund has separated workers from engineering and technical personnel, which is wrong even from a moral standpoint.

Conceived initially to update the wage fund and acquire new technical equipment, the fund for the development of production, which about 10-12 years ago was used with great effectiveness by the steamship line, by an order of the ministry and bank began to be included in the overall limit of capital investments. As a result, this fund was practically eliminated. And it was not until 1986, with the changeover to the new conditions of management, that it was restored.

It is quite obvious that for normal technical development the chief of the steamship line should have both the fund for development of production and the amortization fund completely at his disposal, without any limitations on their use. It is gratifying that it is now permitted to carry out measures for technical reequipment of production and purchases of new, more effective technical equipment and technology using money from amortization deductions that are intended for capital repair.

The centralization of rights for disposing of resources of steamship lines, which is excessive in a number of cases, requires coordination and the solutions to many problems and at various levels and in various organizations. This overloads the management staff, it leads to the appearance of intermediate units, and it reduces efficiency in adopting decisions as well as the effectiveness of management. The system of management of transportation at the present time is sometimes placed in conditions that make it necessary to combine that which cannot be combined. This takes place in industry as well, but in transportation it is more appreciable since the transportation product is produced, sold and consumed at the same time, and the function of management of the transportation process prevails over the others.

The steamship line, while it is united, does not have the right to cover the overexpenditure of wages of the transportation enterprise that is included in it from its reserve or from savings on the wage fund of the association, although industrial associations do have this right.

The manager of the transportation association cannot independently decide which of the line enterprises under his jurisdiction can have the right to deduct economic incentive funds depending on the results of their labor. This right is not even granted to the minister.

The association does not have the right to put into effect extra tariffs on cars that are returning empty or are underloaded although there is no doubt about the effectiveness of such a measure. They do not have the right to establish reduced rates for experimental shipments.

The amount of paperwork that is not envisioned by any provisions is constantly growing. On the other hand, each year it is planned for the association to reduce the number of its administrative and management personnel. Economists of our steamship line have calculated that if during the past 10 years assignments for reducing administrative and management personnel had been consciously carried out we would now be working with a personnel staff that had been reduced by one-third and of the remaining two-thirds one-third would be washing floors, cleaning windows and repairing and maintaining the building. And this is under conditions whereby the volume of shipments has increased by a factor of 1.5, ties with the shippers have become more complicated, their geography has expanded, interrelations with related kinds of transportation and with foreign trade and other foreign firms have become qualitatively different, control and inspection agencies have imposed greater requirements, more complicated technical equipment has appeared, and the significance of solving social problems has increased. Dependency toward the increase in highly skilled labor and the increase in the proportion of engineering and technical labor in transportation is objective and only emphasize that today's administration is abnormal. For this reason, the widely advertised Shchekino Method is "suspended" in air: today the association is changing divisions and services over to working according to this method, but tomorrow a directive comes to "reduce"--and increments to wages of those who are left are eliminated, and the criticized reserve who are sent to the kolkhoz, to the vegetable base, for maintaining the area and working on the construction site are eliminated.

Both in our field and in industry one automatically asks the question: Why must engineering and technical personnel clean up, wash the floors, clean the windows, maintain the area and do repair work? It turns out that everything is very simple: the cleaning people, the yardmen, the guards, the handymen, and the electricians who service buildings and "offices" of all kinds, from the shop to the associations and ministries, according to the instructions are included in the administrative staff and this being the case they are the first to be eliminated. Although modern production, in order to survive in these "tintures," is adapted, distorted, in other words, it finds an antidote: after all, someone must service the premises so that they do not become covered with filth. Production organizes the so-called "snowdrops": painters work as yardmen, shore sailors work as cleaning people, receiving and dispatch clerks work as guards...and frequently, not showing too much intelligence, they will replace a courier with an engineer, which was discussed at the April (1985) Plenum of the CPSU Central Committee.

Unfortunately, today, without coordination with the higher agency, the manager cannot determine and create his own optimal structure in production or optimal number of personnel for management subdivisions. All this is handed down from above: the structure and the number of personnel are legalized by unified unionwide or republic staff normatives and their additional salaries--by a schedule of salaries that is approved by decree of the USSR State Committee for Labor and Social Problems while indicators and amounts of bonuses are established by standard branch provisions. Neither the minister nor the chief of the steamship line has the right to depart from all this.

Or there is this problem: the transportation association, having stretched its 16 plants and ports throughout all the northwest, is literally "compressed" in the expenditure of funds necessary to the production for managing affairs (we have in mind business trips) and these must be reduced each year. As compared to the period when the steamship line had not yet been combined, they have been reduced by exactly one-third. Although logically the organizing role of the steamship line as the transportation association, as grown a great deal with a two-unit system of management. Not to mention the fact that its production activity has expanded and become more complex, and without a profound knowledge of the concrete situation and systematic analysis of it the level of management drops. Additionally, a significant role is played by the training of specialists directly in production.

There is no sequence: the chief of the steamship line is trusted to manage the collective of many thousands of people and the funds of millions of rubles, but he is far from always able to send an experienced specialist to study a problem, or to develop and introduce new forms and methods of labor organization and production in the fleet or on the line--there are no limits. Thus the routine instructions have become a routine impediment.

One more issue. The production needs scientific or planning development. There is a group of highly qualified specialists who are capable during their free time from work, during evenings and on their days off of doing this quickly and well. But there is no question of paying them: the manager simply does not have the right to do this. He can carelessly, without any danger throw immense amounts of money to the institute and wait for many months and years, losing valuable time and losing his advantage. But he cannot use his own workers to do the same thing just as well and sometimes even better, considerably more quickly and, the main thing, less expensively. And vice versa. Science and planners do not have the right to enlist specialists from production--this involves such limitations and dangers that one must feel sorry for anyone who tries it. And nobody does decide to do this. Scientific and technical progress suffers from all of this.

Practice shows that from 20 to 50 percent of the increase in labor productivity can be achieved with the same technology just by removing unjustified limitations on wages. And when calculated per unit of output not more, but less wages are required.

Why is the contract being introduced so slowly even though it is very effective?

Because the managers of the associations and enterprises do not have the authority to resolve the majority of issues that arise when changing over to the contract. In order to resolve them the enterprise would become a real master of the external conditions of its production. But what do we have? The manager cannot and does not have the right even to redistribute the bonus that is calculated for the group of the fleet working under a unified plan, without increasing its overall sum, in keeping with the individual contribution of each crew. Moreover, the ministers does not have these rights either. What kind of policy, group method or advanced collective forms of labor organization can there be?

All the new regulating and normative documents that are for purposes of clarification in the final analysis appreciably limit and then abolish those that were previously issued.

We would be less than truthful if we were to forget that in transportation as, incidentally, in the industrial enterprise as well, mountains of prescriptions and limitations come from bank, financial, labor and supply agencies, there is a multitude of instructions and guidelines from various kinds of commissions, divisions of ispolkoms, there are oblast, city and rayon plans, a mass of documents and norms of the Gostandart, fire protection, the city technical supervision agency, the protection of nature and so forth. And all of them make demands, give orders, impose prescriptions and monitor the work. And in response there are hundreds and thousands of reports, references and clarifications which take most of the time of the qualified staff, they do away with any kind of independence and the enterprise's complete cost accounting loses all meaning.

The transportation enterprises have no interest in obtaining profits since this interest arises if it could be used to modernize or expand the enterprise, improve working conditions, or provide additional incentives for the workers. But when capital investments are financed to a significant degree through the budget and are not conditioned by the level of current operation of the enterprise, there is no interest in profit for there is no stable dependency between the possibility of expanded reproduction and the effectiveness of current activity. Thus today transportation collectives have no economic microclimate which would interest them in optimizing their own behavior and planning and making efficient expenditures.

#### Taking the Quality of Labor Into Account in Indicators of the Effectiveness of Work

Many of the aforementioned limitations and unnecessary difficulties are inherent in industry as well. In transportation we add to these our own home-grown mistakes. Such a mistake at one time was concealed in the formation of indicators of the effectiveness of the operation of transportation enterprises. For a long period of time it has played a fateful role in increasing the effectiveness of the transportation process. The work of the ports is equated with the work of the ordinary industrial enterprise. The evaluation indicators are calculated precisely in the same way as in industry whether they pertain to labor productivity, profit, output-capital ratio or any other indicators. In an industrial enterprise the product simply means

the physical-substantial form of the results of labor measured in the units in which the demand for them is expressed in the national economy.

But in transportation the word product means "the movement itself," and the acceleration of this movement is the additional product that the port creates. In the place of the port there could also be a transshipment station or a shipyard that accelerates the output of the repair fleet. But it is precisely this function of the transportation enterprise that is suffocated by the corresponding indicators for evaluating it.

The ship, the process of whose movement coincides with the process of the creation of new value, is the more used up the longer the time from the loading until the ship is relieved of the cargo. The more rapid the delivery, all other conditions being equal, the less the outlays throughout the fleet that are transferred to the product being shipped, the greater the savings on labor and transportation and the higher the indicator of the effectiveness of the work of the port should be.

A reduction of the time period for processing the ships in the ports creates conditions for accelerating subsequent transportation. This kind of effect should be evaluated in the indicators of the results of work, which at the present time practically never happens. Not one of the formulas for calculating labor productivity, profitability, profit or output-capital ratio of transportation enterprises takes into account the additional effect that comes about in shipments and for the national economy as a whole as a result of reducing the time for cargo processing of the means of transportation.

For example, a brigade of workers who have changed over to the latest technology and organization of labor has accelerated the loading of a cargo steamship. It would seem that the effect would be apparent. But labor productivity in loading has even decreased somewhat for the number of tons processed has not increased because of the application of the method and labor expenditures, because of the additional concentration of labor force during the period of loading, have turned out to be more than with normal flow work. The application of the high-speed method has also required that the port acquire more of the latest technical equipment (cargo transfer mechanisms, spare parts, cargo grips and so forth). With the same number of tons this has led to a reduction of the output-capital ratio (the volumes processed may not increase, but the cost of the capital has increased) and profitability (the profit as a result of the annual revision of normatives for processing have remained at almost the same level while the value of the capital, as was said above, has increased).

Those transportation enterprises that cannot increase their handling capacity and exert all efforts for accelerating the handling of cargo and repairing the rolling stock are in the worst position. In all of these cases there is a clear underestimation of the consequences associated with the qualitative aspect of their activity. The majority of indicators of the effectiveness of the work of these enterprises can be expressed in a methodologically correct way by taking into account the national economic effect that appears at the higher levels of management--in the associations or in the branch--as a result of the savings on total expenditures of live and embodied labor throughout the

transportation enterprise and the means of transportation that are processed (repaired in it--the fleet, the railroad cars, the railroad vehicles).

For us river workers a great deal in the improvement of the branch has to do with the lack of a single union ministry. The implementation of a unified policy for the development of river transportation, regardless of economic regions, as it developed more than 30 years ago, requires the formation of a union ministry of the river fleet.

The territorial barriers among the various republics impede cooperation and specialization in the development of all areas of river transportation, establish a division of the rivers that does not exist in nature (part of the Irtysh in the RSFSR, part in Kazakhstan, part of the Dnepr in the UkrSSR and part in the BSSR), and they lead to an underutilization of the most effective mixed fleet: river--sea.

The lack of a unified technical policy over a number of years has led to the appearance of small transportation organizations and a lack of coordination in the construction of ships, ports and hydrotechnical installations. For example, on the Dnepr the sluice is smaller than it is in the unified deep-water system. The scientific base of the river branch is dispersed. Interregional economic ties have been broken and interrelations are complicated not between the river steamship lines and the railroad when shipping cargo in mixed river and rail transportation.

Also important is the fact that the existence of republic departments along with union railroad and sea departments leads to various time periods for the beginning and end of the development, consideration and approval of plans for the shipment of cargo. This should not be the case at all, since one forfeits the integrated and coordinated functioning of the unified transportation system.

The role of transportation in the country's economy is undoubtedly increasing since modern industry, whose products it delivers to the place of consumption, is characterized by a larger scale and greater complication of the structure of production.

But the lack of a unified complex for control of shipments of national economic cargo and the organizational separation of a number of ministries and departments eventually began to lead to large losses of the national economy precisely at the junctures of various kinds of transportation because of the poor intercoordination of their activity. Under modern conditions the principles of an uncontrolled economy and an isolated departmental approach to the organization of shipments, loading and unloading have become intolerable and fraught with interruptions and national economic losses.

The method of cooperation of transportation workers developed in the Leningrad Transportation Center, which we have used to try to overcome this separation, has resolved only the first organizational stage by updating the information base, arranging personal contact and taking care of a number of other aspects that lie on the surface. But the deep processes on which economic levers are based remained untouched.

Therefore, frequently because of the fact that cargoes remain too long at the transportation junctures, the inefficient division of labor and shipments, and the imperfection of planning and legal norms on various kinds of transportation, the result of increasing the speed of means of transportation and the effect from new technologies and methods are "eaten up."

Today the solutions to large-scale economic and social problems and the level of concentration, specialization and cooperation of production require coordinated functioning of various kinds of transportation as an integrated and unified system.

It seems that there is now a need to create in the country a general transportation directive agency which would control and coordinate the work of all kinds of transportation. This agency should, in our opinion, overcome departmental and local tendencies, provide for an efficient combination of branch and territorial development, determine the proportions and the scale of development of individual kinds of transportation, distribute optimally among them shipments, capital investments and material resources, and skillfully coordinate their work.

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## LIFE ON TRAVELING WORK CREWS DESCRIBED

Novosibirsk EKONOMIKA I ORGANIZATSIIA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 100-136

[Article by Viktor Galchenko, pseudonym for work crew member; transcribed and commented on by Nina Maksimova, journalist; October 1985-May 1986: "The Life of One Work Crew Member"; first two paragraphs EKO introduction; passages in capital letters published in bold face in the original]

[Text] Viktor Galchenko is a pseudonym for a person who rendered a great deal of assistance to the EKO editorial staff in compiling a sociopsychological portrait of the traveling work crew member [shabashnik]. He knows about the people who work on these crews not from hearsay but from working in the "wild" brigades himself. We became acquainted with Galchenko through a questionnaire circulated among the readers. After that he corresponded with a worker on the editorial staff, and then--they met in a large c'tv where Viktor Petrovich returned after his last journey for making money. He discussed in detail how he ended up in the "wild" brigades, what he saw there and what he learned, and he shared his own general ideas. The journalist transcribed the discussion and also retained her own opinions regarding some of his judgments and aspects of the social odyssey, recalling related material during the course of the conversation.

So far no unanimous opinion has been formed regarding the practice of having work crews travel to remote areas to carry out special projects. Up to this point many people identify this practice with unearned incomes and say that this practice deforms and distorts the personality and that it is alien to the nature of socialist society. But it is certainly not a random phenomenon--otherwise it would not be so viable. In form it is a matter of voluntarily hiring oneself out, which is sometimes transformed into private entrepreneurship.... In this form itself, especially involuntary employment, there is hardly anything that is initially alien to our society. Perhaps this is a complex phenomenon that exists at the juncture of the contradictions of social and economic development that have not yet been completely investigated? Should one categorically label as a deformity this reorientation of the personality which can take place in a person who works on these crews for a long period of time? And if it is a deformity, should one see it as resulting only from the influence of this particular form of work; perhaps it is a result of an entire complex of conditions and interacting

contradictions? We shall try to answer these questions by considering the twists and turns in one destiny, the destiny of the narrator and main hero of this essay. Just as the world is reflected in a drop of water, so in the destiny of this one person (or, to use the words of Viktor Petrovich himself, in the economy and psychology of his individual life) we have found reflected certain features that are characteristic of the practice of traveling work crews as a phenomenon.

#### "What Are My Prospects?"

I am considered to be a failure. I have become neither a manager nor a highly paid specialist nor a scholar with a degree. I have only a one-room apartment and it is furnished modestly. I am constantly in debt. My debts do not bother me--I can always earn the necessary amount quickly. But my trips with the "wild" brigades to make money seem to many people to be an intellectual quirk at best. And nobody approves of the fact that lately I have been changing my place of work frequently. I remain optimistic and assure everybody around me that I do not consider myself a failure, but someone who is following an unorthodox path through life. But suddenly you shudder and think: is my current life nothing but a bad dream? Why have I not become the person I wanted to and could have become?...

According to my inclinations I should have become a disciplined and stable worker. I grew up as an obedient boy and not a spoiled child. There were two children in the family, my father was a military serviceman of low rank, and my mother was a housewife and took in sewing. Early in life I began to compare my needs with the modest possibilities of the family budget, and I never went to my parents with the demand to buy me something, but rather first I would reasonably ask if we had any money. When I was a boy and wanted to dress fashionably, I myself would select an inexpensive fabric at a commission shop, I would create the pattern and then ask my mother to sew it. I helped my mother at home. I was good in school.

Perhaps my boyhood dreams were too grandiose. As they say nowadays, a person with high expectations (inspired by my success in school, I wanted to select an unusual profession. After the 11th grade I still did not know which one precisely. But I refused to go to the polytechnical institute, which is what my father wanted. My father had friends who were established there. And I was revolted by the idea of using pull to get in, and this is partially why I went against my parents' will for the first time. I entered the university honorably, without taking advantage of any connections, but I was in the third round of admissions.

I enrolled in the evening division and worked at one of the departments of our biology faculty. I decided to become a scholar. I had no doubt that I would be able to defend my candidates dissertation, which would be a serious contribution to science, and I did not stop there. I did not worry about the means for achieving these goals. I believed in some fundamental justice. I thought that I would study and work conscientiously and that they would notice me and help me realize my capabilities.... But almost 5 years passed, I completed the VUZ, I was already married--and I worked as a laboratory assistant as I always had. When I arrived they registered me at the rate of a

handyman in order to give me a little more money: at that time handymen were paid 65 rubles and laboratory assistants--45 rubles. After a certain amount of time they raised the wages for laboratory assistants and then the girls who came to us after school immediately received 80 rubles while I was left with my 65. I thought (and I still do) that it was shameful to ask for higher wages or a promotion for oneself. But when I finally realized that nobody in the collective was paying any attention to my silent torment, I went to see the head of the department. He was a scholar with the rank of corresponding member. He frequently dropped into our laboratory. I had had occasion to participate in conducting experiments using his methods. But he hardly noticed my presence, or the presence of any junior personnel for that matter--for him we were a faceless crowd. When I entered the reception room of the great scholar I said with a quavering voice that I wanted to know what my prospects were--I had completed the VUZ and was still receiving 65 rubles....

"How much!" the corresponding member asked in amazement, as though he had no suspicion of the existence of such miserly rates. He immediately looked at me and then at the staff distribution table.

"Starting tomorrow, you will receive 90, and at the beginning of the year, 120 rubles. You will be in charge of the laboratory assistants. Does that suit you?"

The problem that had tormented me for many months was resolved in a moment. Then they forgot about me again. I enthusiastically engaged in the reorganization of the laboratory and carried it out more quickly than had been planned. I stayed at the laboratory overtime if, for example, they asked me to organize in a hurry the corresponding member had gathered for the next symposium. My zeal was even excessive. I thought that I would get credit for this. I even did graduate study by correspondence and thought about having my own research on the boundary between human physiology and psychology; they did not do such research in our department yet, but I believed in my capabilities if only I were allowed.... "And who will work?" the corresponding member, who is considered to be my scientific leader, asked in surprise when I requested permission to spend some time working on my own experiments. He advised me to engage in science and everything else that interested me, but on my own time. He added that he himself had worked that way and had not yet achieved recognition. I reminded him of all the free hours I had spent on organizing his work. I understood that in order to engage in deep scientific study I would have to find a new position.

I went to work enthusiastically in the new position, in a scientific research institute for psychology. I was hired as a junior associate, but still I was a scientific associate. I had long been interested in psychology; even when I was studying in the biology department I wanted to study man in all the diversity of his manifestations. But here too there was almost no time left for science. Like all junior scientific associates, I was overloaded with technical and office work. As a newcomer I was frequently sent to the construction site of the new institute building. I was "bound" to the theme "Labor Education of Youth." Problems of labor education interested me but I thought that they could not be solved separately from theory and from the methodology of research. Again I was drawn to the boundaries of associated

social sciences and philosophy. In my opinion, psychology which at one time emerged from the bosom of philosophy, had become too much separated and had become a popular science. And without losing sight of the questions of labor education that had been assigned to me, I decided to make my contribution to restoring the lost connections between psychology and other sciences. And it was during this period that I became involved in the work of Karl Marx, especially his "economic manuscripts of 1857-61." I read there a definition that impressed me: "Activity, regardless of how individual the form of its manifestation may be, and the product of this activity, regardless of what its special properties may be, is an exchange value." (Footnote 1) This means that not only the product of the activity, but also the activity itself has value. It is a pity that this idea (I do not know whether Marx remained true to it in his subsequent works) escaped the attention of many philosophers working on Marxism. But it is very important, because the value of any activity is not exhausted with the value of the product it creates. From my own experience I had already sensed that this was the case. I thought long about Marx's economic approach to the category of activity which is in effect in philosophical and psychological sciences. It seemed that I was approaching something new in the understanding of the relations between the individual and the society.... The sector chief, whom I told about this work and the article I had started, answered that my approach was not without interest, but it was far removed from the subject that had been assigned to me. In an application to the directors I asked for a year to complete this work that went beyond the planned framework. There was no reaction. The first variant of my article was submitted "for response" to another junior scientific associate who wrote a crushing review. Nobody paid any attention to my request to show the article to several other specialists. I probably acted too free and easy at the institute. The restraints had been removed from the former obedient youth. In the previously unnoticed "service worker" who had finally changed his social status creative forces seethed and demanded an outlet I was always engaged in discussions and conducted them myself. And then they began to criticize the scientific research institute because it did not produce serious output, and inspection commissions began to come there more frequently. My activity was not in the mainstream and nobody took it upon himself to figure out whether or not my ideas had any worth. One of the managers of the institute unofficially offered to release me at my own request, promising to find me another position where I could continue my studies of theory. My manager's promise was never kept. Thus ended by work in scientific institutions, which at one time had seemed to me to be a way of reaching the heights of knowledge. But in reality it gave me neither intellectual satisfaction nor money enough to support my family. I was never able to realize or even verify the creative capabilities I felt in myself. My salary never went above 120 rubles. From time to time I had to look for additional earnings.

JOURNALIST. VIKTOR PETROVICH AND I ARE CONTEMPORARIES. I ALSO COMPLETED SCHOOL IN THE MIDDLE OF THE 1960'S. AT THAT TIME THEY HAD NOT YET INTRODUCED DIRECTED OCCUPATIONAL ORIENTATION IN THE SCHOOLS AND THEY DID NOT ENCOURAGE THE GRADUATES TO BRING THEIR DREAMS IN LINE WITH THE REAL NEEDS OF THE NATIONAL ECONOMY AND GO TO WORK WHERE PERSONNEL WERE MOST NEEDED--IN A PLANT, A CONSTRUCTION SITE OR A KOLKHOZ. AT THAT TIME THEY DID NOT REPEAT SO FREQUENTLY THAT THE BEST WORKER IS THE ONE WHO IN A DISCIPLINED WAY, WITHOUT

DISTURBING ANYTHING WORKS HIS ENTIRE LIFE IN ONE COLLECTIVE. NO, WE WERE ENCOURAGED TO BE BOLD, TO SEARCH--FOR OURSELVES, RECOGNITION AND OUR PLACE IN LIFE, TO OVERCOME DIFFICULTIES, TO FIGHT FOR PRINCIPLES, NOT TO BE AFRAID OF DISTANT ROADS. MUCH WAS SAID ABOUT THE IDEA THAT LABOR SHOULD BE CREATIVE AND INSPIRING, THAT IT SHOULD BRING JOY AND EMOTIONAL SATISFACTION.... AND THERE HE IS--A RESTLESS SEEKER OF HIMSELF AND HIS CALLING, CREATIVE LABOR AND EMOTIONAL SATISFACTION. HE DID NOT DOUBT THAT HE WOULD ACHIEVE EVERYTHING BECAUSE BOTH THE SCHOOL AND THE MASS MEDIA ORIENTED US TOWARD SOCIAL OPTIMISM, WHICH AMOUNTED TO A SIMPLISTIC IDEA OF A HAPPY ENDING IN WHICH JUSTICE WOULD INEVITABLY PREVAIL, VICE WOULD BE PUNISHED, AND INTELLIGENCE AND GOOD WORK WOULD BE REWARDED. IN SPITE OF ALL OUR CANDID YOUTHFUL SKEPTICISM, THE SIMPLISTIC OPTIMISTIC MODEL BECAME INGRAINED IN OUR CONSCIOUSNESS. THEREFORE HE WAS NOT PREPARED TO ENCOUNTER THE CRUEL WORLD OF EVERYDAY LIFE. HE WAS NOT ARMED WITH SUFFICIENT PRACTICAL SKILLS, ALTHOUGH HE HAD ACQUIRED CERTAIN HABITS AND A SENSE OF EFFICIENCY IN CHILDHOOD. HIS CHARACTER EXHIBITS A COMBINATION OF NAIVETE AND ELEMENTARY PRACTICALITY. HE IS NOT YET EXPERIENCED ENOUGH TO ENTER INTO COMPROMISES, TO "LOWFER" HIS IDEAS TO CORRESPOND TO THE SITUATION. AND HE IS NOT CRAZY ENOUGH TO CARRY THEM OUT, SACRIFICING EVERYTHING FOR THE SAKE OF THESE--HIS FREE TIME, THE MATERIAL WELL-BEING OF HIS FAMILY...INSPIRED IDEAS ARE GENERATED AND DEVELOP AGAINST THE BACKGROUND OF CONSTANTLY UNSATISFACTORY EARNINGS. THUS THE SEEKER WENT TO WORK ON A TRAVELING WORK CREW.

#### The Youth of the "Wild" Brigade

The need to go along with the "wild" brigade in search of earnings first arose after my second course at the university when I decided to get married. "What do you expect to live on?" asked my future father-in-law. She was a correspondence student and I was an evening student; at that time I received 65 rubles and she received 70. Even with the prices of the 1960's and the beginning of the 1970's it was difficult to live on this minimum. I did not want to leave the VUZ. My self-respect would not allow me to be supported by my parents. And I might not be hired for the student construction detachment as an evening student. My decision to make extra money drew me to the "traveling work crew." Nobody suspected that the "traveling work crew" would attract me for very long. My parents regarded side earnings as a normal phenomenon; I do not know how my family would have existed had not earned extra money by sewing--for my father drank. And since childhood I had earned my own pocket money. In our section of the apartment building all the boys played for money and I always won, so I had to lend money.... Right before holidays practically everyone in the section would deliver telegrams--we earned up to 100 rubles a day in the old currency. When I was a little older, during holidays I would package veneer sheets at the plywood factory and this gave me enough money to purchase a sport coat and other adult things. This work was not difficult or unpleasant for me; I still love the smell of wood. Perhaps this is why on the traveling work crews I preferred to construct wooden buildings over brick and concrete ones.

I became a member of the traveling work crew when I got into a brigade consisting of people I knew. We were all from the same city and had decided to earn extra money for the first time. We went to the north of Tyumen Oblast. There they showed us a section of forest: we were to cut down the

trees ourselves, clear the area, and build the first street of a new settlement. They left us by ourselves. And here we discovered that none of us had ever cut down a tree or built a building. We cut down the trees by remembering from the movies how this is done. It was then that we learned that felling trees is one of the most dangerous specialties. A sixth sense saved us from injuries. Once I jumped to the wrong side of a tree that had been cut, it was the side I usually jumped to--and terror overtook me. The tree trunk crashed heavily there. When the first building had been put together a supervisor appeared and said: "That is not the way to do things." He showed us how to build it. Now it is difficult to explain how eight dilettantes somehow managed in 2 months to construct if not a street at least a lane--with eight two-apartment buildings. Obviously this was purely the effect of motivation: we could not return to the city without any money, for that would mean to admit our own failure. We put together the framework up to the ceiling in 6 days. (Subsequently I was to consider this level of labor productivity to be the norm for the "wild" brigade, and sometimes we even surpassed it. Once not eight people but three completed the framework in the same amount of time--6 days). We released the building's "turnkey" with all the amenities--with sheds, toilets, sidewalks and fences, and we even set the polls and brought in electricity. And we also delivered and unloaded the construction materials. In 50 days we earned 1,200 rubles each. If one were to translate this into 8-hour workdays and 6-day weeks, our monthly earnings would amount to about 350 rubles with a category coefficient of 1.6, which is equal to 219 rubles in the central regions of the country. For traveling work crew members this is not very much. Probably some of our overall earnings remained in the pocket of the brigade leader who paid us himself, and nobody supervised him. But I did not think about that at the time; I was stunned. For in a year in the city I had earned less than I did during these 50 days! Almost all the earnings went for the wedding. After that my money from the traveling work crew went quickly for during the winter my debts had accumulated, and in the summer I had to go and make money again. At first I thought that I would go only for one season....

I follow the discussions of such earnings in the press with interest. I understand the problems that bother the writers and the readers: is it moral to work on traveling construction crews, can one consider the income from it earned or is it related to speculation in unsatisfied needs, the shortage of labor force, and so forth? Is it necessary to eradicate this phenomenon or, on the contrary, to legitimize it? It is a pity that the most convincing articles are written by opponents of this kind of work who consider it a social illness. True, recently there have been articles in which they have tried to consider this phenomenon analytically and dialectically. But a couple of articles can hardly make an appreciable difference in an entrenched negative public and official opinion. I myself do not think that there is anything unnatural or fundamentally unhealthy in this kind of work. One must remember that it is related directly, although not closely, to the traveling businesses, gangs and workshops that existed in ancient Russia for many centuries. Therefore in traveling work crews one must see a manifestation of national tradition. And it is perhaps not the only one to blame for the fact that it is difficult to include it in today's social and economic norms....

Can one consider it immoral and unnatural if one desires to mobilize all his forces and earn a significant amount of money in a short period of time? Many people can have such a need, especially youth. As they write in the newspapers, at certain plants they have begun to take this into account and permit the combining of engineering activity with work in shops. But what about people who are not engineers, who are employed in the nonproduction sphere with its lower pay? Many people like myself are forced to go to the "wild" brigades.

JOURNALIST. VIKTOR PETROVICH CONVINCINGLY EMPHASIZES THAT IT IS NATURAL AND NECESSARY FOR CITY DWELLERS TO JOIN THE "WILD" BRIGADE. AS DISTINCT FROM THE TRAVELING WORK CREW MEMBERS WHO HAVE BEEN HEROES OF CERTAIN ANALYTICAL ARTICLES IN IZVESTIYA, WHO ARE NOT EMPLOYED OR ARE UNDEREMPLOYED IN PUBLIC PRODUCTION, OUR BEGINNING WORK CREW MEMBER HAS A PERMANENT JOB IN THE CITY. BUT HE IS NOT SATISFIED WITH HIS SOCIAL AND ECONOMIC POSITION. HE IS TRYING TO CHANGE IT, BUT HE DOES NOT FIND ANY POSSIBILITY OF THIS IN HIS PERMANENT WORK PLACE. HE IS RESOLUTE, OPTIMISTIC AND INTENT ON EARNING MONEY HONORABLY. SUCH A PERSON WITH HEALTHY AND EVEN ATTRACTIVE QUALITIES IS ATTRACTED TO THE TRAVELING WORK CREW BY COMPLETELY NATURAL PERSONAL ECONOMIC INTEREST. HOW IS THIS INITIALLY HEALTHY DESIRE SUBSEQUENTLY TRANSFORMED?

The atmosphere in the "wild" brigades varies. That first brigade was divided into two camps. The hefty, boisterous peasants headed by the brigade leader held the upper hand. They arranged a test for the youngest ones to see if we were capable of working. Before dinner each one had to dig a hole for a toilet with a depth of 1.8 meters. After 1.2 meters the ground was frozen and we sweated blood, but we did not pay any attention to the norms that had been taken "from the floor" so that we would not appear to be weak. It was here that I first felt what it is to have competition with positive and negative sides. The desire not to fall behind the others made us work extremely hard. And we had to streamline even the simplest technological devices. We competed literally in everything and fought out each operation. For example, when installing the boards in the ceiling, if it took more than three strikes of the hammer to drive a 100mm nail this was considered to be not altogether satisfactory. In the brigade we put a stop to attempts to work in our own way if it had been proved that another method had the advantage. And it immediately became clear who was weaker. The brigade leader and his allies especially picked on Igor Konstantinovich, who was older than the others and worked conscientiously in construction but was slower than the others. But he prepared the meals and, since he was a physician by profession, he treated not only us but also people from the neighboring student detachments and local residents who would come to him. He had an encouraging word for everyone who became tired. The brigade leader announced that Igor Konstantinovich was not earning his money. But we newcomers defended him. I said that he works with all his heart and soul and built up the prestige of the brigade, and this is worth a lot.

JOURNALIST. THE ATTITUDES IN THE "WILD" BRIGADE AT THE END OF THE 1960'S WERE ESSENTIALLY THE SAME AS THEY ARE IN CERTAIN OF TODAY'S PLANT BRIGADES. THERE WAS THE SAME DIVISION INTO STRONG AND WEAK. THERE WAS THE SAME STRUGGLE OF OPINIONS WHEN DETERMINING THE AMOUNT OF PERSONAL CONTRIBUTION TO THE WORK OF THE COLLECTIVE. (ONLY THE CONTRASTS WERE SHARPER AND THERE WERE GREATER

POSSIBILITIES OF INITIATIVE IN LEADING THE BRIGADE, WHICH ENDS UP HERE AS ARBITRARY ATTITUDES--WHEN PAYING EARNINGS, IN INTRABRIGADE NORM SETTING.) THE "WILD" BRIGADE ALSO INCLUDES THE KIND OF PERSON WHO IS USUALLY CALLED THE HEART OF THE COLLECTIVE, AND HE FINDS ALLIES AND DEFENDERS HERE. THIS DOES NOT COMPLETELY CORRESPOND TO THE EXISTING IDEA ABOUT TRAVELING WORK CREWS. INCIDENTALLY, THEY TOO ARE BEGINNERS WHO HAVE NOT BECOME CALLOUSED YET....

After the production success of the first season I felt so experienced that the next summer I decided to form a brigade myself. But I wanted the relations in it to be different. I decided to take with me my friends from my childhood. This group was the healthiest collective I knew. The aforementioned gain for money was the only "amoral" thing in it if one does not count boyhood fights, which are still common. Some people do not believe it, but we even signed up as a group for amateur talent circles and sports sections. Our relations were extraordinarily democratic: there was no sharp competition, no strict subordination of one person to the leader, everybody became the leader in something, and we respected one another. Perhaps this is why the atmosphere in the collective is important to me, even if it is organized for a short period of time, to earn money....

For several seasons we worked almost as a permanent crew. My younger brother and my friend from our neighborhood, Oleg, always went with me. They entered the brigade primarily because I wanted them to. They also found work together --in a university department. This could have created obstacles to their taking trips together--but, surprisingly, in this case the administration met us halfway, understanding that we were all family and that we were underpaid. They did almost nothing to help us raise our social status, but they did everything they could to make it easier for us to travel for special work projects. For this we are grateful. The three of us signed up for our regular month's vacation at the same time and for the rest of the time we were absent (the wild seasons lasted 2-3 months) they gave us "eights" on the table: we received wages for that time and then gave them back to be used for the needs of the laboratory (reconstruction, new equipment, and so forth).

In addition to my friends we took only people we knew well. Everybody was warned that the work was difficult and life was hard. We lived in barracks and poorly equipped railroad cars. We bought our own groceries and prepared our own food. Our "normal" workday lasted 10-12 hours or more and we worked very hard. We had a half-day off: on Saturday we stopped work a little early, went to the bath and then drank tea with rum (but we had no big drunks). Our contacts with the local population were reduced to the business minimum. We avoided everything that could weaken us. We deliberately narrowed the influx of information: we did not listen to the radio or read the newspapers. All we did was work. And gathered our strength for the next working day. The working conditions did not crowd out our customs. We divided up into two teams. One team included those who were used to getting up early. I worked on the other team--we went to the construction site later. But the work day lasted just as long for everyone.

Our brigade visited various places in Siberia--the Yenisey, the Angara, and the Sayans. Of course we did not travel just to smell the taiga. But it was not only for money either. It is also possible to earn extra money in one's

own city--constructing dachas, for example. But we were young and we needed bright new impressions, self-assertion and, finally, risk. Here I am among people to whom I mean something.... We needed to work on the crews also for the rather dangerous mountain hikes. We looked for extreme loads. One cannot work at one's limit all the time--this would wear us out. But sometime, or at least once in a person's life, he should experience his limits--this way he learns the measure of his capabilities and expands his possibilities. But in my opinion today people are too afraid of becoming overly tired and overloaded, and therefore we frequently have occasion to see not labor but an imitation of it. I had not noticed this before. But once I became a work crew member, I could not remain calm when I would see the slow rate of work of many "staff" brigades. One enterprise constructed a residential building by the internal method where I could watch them. I saw mainly people taking smoke breaks. If we had not signed up, I do not know when the construction would have been completed. We build buildings for them and they provide us with construction materials. But this is where the work stopped, because the promised beams never arrived. We went with our friend and permanent worker, Oleg, to look for the supply workers. We found them on the other side of the mountain in a terrible mess. When they were going up the mountain the beams had slipped from the cart. There were five beams weighing 100 kg each. But a couple of strong Siberians appeared nearby.... Oleg and I swore at them and tossed the beams on the cart. "Look at yourself!" I said. "You are stronger than we are." After that people told stories about us in the village. "Do they not feed you well in the city or what?" the local residents tried to find out. "Why do you work here like crazy people?" But they did not seem to consider us moneygrubbers. When we would go into the rural store, people would step aside and let us up to the counter. The people could see how valuable our time was. We felt that there was a common interest in our "crazy" work. For we were building housing, clubs, garages, warehouses, boilers--things which the people critically needed, but which were the last to be put into operation everywhere.

JOURNALIST. AS WAS ALREADY NOTED, THE NEWSPAPER LONG AGO MANIFESTED AN INTEREST IN THE TRAVELING WORK CREWS AND THEY ARE THE MAIN ONES WHO FORM PUBLIC OPINION TODAY. BUT THE SCIENTIFIC DATA ABOUT THE ACTIVITY OF THE TRAVELING WORKERS, UNFORTUNATELY, ARE INADEQUATE. WE DID NOT MANAGE TO FIND ANY STATISTICS THAT REFLECT THE ACTIVITY OF THE TRAVELING WORK CREWS IN SIBERIA. BUT INTERESTING DATA HAVE BEEN PUBLISHED CONCERNING THE PARTICIPATION OF WORK CREW MEMBERS (OR SEASONAL WORKERS, AS CERTAIN SCIENTISTS PREFER TO CALL THEM) FROM ARMENIA IN RURAL CONSTRUCTION. IN HIS INTERVIEW IN IZVESTIYA THE CHIEF OF THE SECTOR FOR DEMOGRAPHY OF THE SCIENTIFIC RESEARCH INSTITUTE OF ECONOMICS AND PLANNING OF THE ARMENIAN SSR GOSPLAN, S. A. KARAPETYAN, SAYS: "IN MANY REGIONS ARMYANSTROY, AS SEASONAL WORKERS FROM OUR REPUBLIC ARE POPULARLY CALLED PERFORMS TWICE AS MUCH WORK AS DO THE CONSTRUCTION SUBDIVISIONS OF SELSTROY AND KOLKHOZSTROY TAKEN TOGETHER. IN 1984, FOR EXAMPLE, IN ROSTOV OBLAST AS A WHOLE, HIRED BRIGADES WHO COMPRIZE 12 PERCENT OF THE NUMBER OF WORKERS OF KOLKHOZSTROY IN A HALF-YEAR PERFORM 37 PERCENT OF THE ANNUAL VOLUME OF ITS WORK. MOREOVER, ALL THE OBJECTS WERE RELEASED READY FOR USE; WHILE IN THE ASSOCIATION THE AMOUNT OF INCOMPLETE CONSTRUCTION REACHED 40 PERCENT." THE SCIENTIST DRAWS THE CONCLUSION: "BY ANY MEASUREMENTS THE EFFECTIVENESS OF THE WORK OF THE SEASONAL WORKERS IS CONSIDERABLY GREATER THAN THAT OF LOCAL CONSTRUCTION ORGANIZATIONS." (FOOTNOTE

2) NOTING THE INTENSIVENESS AND THE SKILL OF THE LABOR OF TRAVELING WORK CREW MEMBERS, THE SCIENTIST SAYS THAT ONE CANNOT CALL THE HIGH PAYMENT FOR SUCH LABOR UNEARNED INCOME. OBVIOUSLY THESE CONCLUSIONS APPLY ALSO TO THE "WILD" BRIGADE IN WHICH VIKTOR PETROVICH WORKED.

Relations in the brigade were basically normal--without quarreling or petty supervision. But it was not without unpleasantness. For far from everyone, even a person who is physically strong, can stand our conditions. A weightlifter who was confident of his strength felt so bad under the conditions of our long periods of excessively hard work that he quickly had to go back to the city. Another good acquaintance might be a not very reliable comrade here. Like Vadim, whom in the city we considered to be a "normal chap," found that nobody wanted to work with him on the work crew--without any warning he would throw down his end of the beam without thinking about the fact that this would hurt the fingers of his teammate. Sometimes fights would break out in the brigade. One time we had a person who looked like the hefty peasants from the first brigade. Knowing his strength, he was always looking around to make sure that he did not do any more than the others did. But I thought that all the others, even if they did less, were working better because they were giving all they had. The degree of intensity of the labor of the clever strong man was considerably less. We did not keep such "psychologically incompatible" people for more than a season, but they managed to sow discord. I started noticing that relations were especially bad if people appeared in the brigade who were clearly stronger or weaker than the others. A chap with weak legs came to work with us. When he lifted anything heavy his legs would give out.... The fellows (even those I did not worry about much) were grumbling. I said that he was not to blame for his weakness and that he was trying. And he needed money--he intended to get married.... We decided to keep him in the brigade but pay him according to a reducing coefficient.

We applied the "coefficient of labor participation" in exceptional cases. Usually we kept track of work days which were the same for everyone. And we divided the money up equally. No exception was made for me as the leader. Even then I did not think that the advantages of experience should give me the right to higher earnings. Because I received the same payment as everyone else, I had the moral right to "boost up" the slower ones to my own higher level of skills and labor productivity. I did not "boost them up" with verbal instruction. Even then I understood how much example and mood of the leader mean. I distributed all the duties and the entire workload in the brigade not equally but according to the capabilities of each person. But I myself, regardless of whom I was working with, always took the heavier end of the log. And I tried not to pay any attention to those who would become tired and "slack off" from the overall work. They would make up for it another time. In order to optimize the brigade, and instill confidence of success in it, I said that I was able to do everything--even if we were offered a project that was new for me. For I already knew that I could quickly figure out the blueprints and technology and then teach the others. The leaders of the construction units in the Sayans, where on a steep rocky slope we constructed four two-apartment residential buildings from squared beams and a large warehouse from round timber, they did not guess that almost everyone in our brigade had taken up an ax for the first time. At first, when we did not yet

feel confident within the framework of the construction trade, we constructed everything without any deviations from the planned documentation and strictly observed the prescribed technological process. Then we began to figure out how to simplify and streamline the technology in order to accelerate the work, but we had to return to our "official" place of work as quickly as possible. After 2 years our brigade had a lot to teach the professional builders. We arranged demonstrations for specialists who did not believe that the Druzhba gas saw could make precise cuts for a tight fit of square beams in the so-called "swallowtails" and they made us work with a two-hand saw. Accelerating the work, we would sometimes deviate from the plan, but with caution, trying not to cause any harm to the quality or reliability of the construction and not slip into plain old hack work.

Since I formed the brigade, organized the labor of the construction site and trained the newcomers, I was considered the brigade leader. But I called myself the commissar. Because I was concerned about the atmosphere and about maintaining friendly relations. I could not take on the full load of a brigade leader. I did not believe that I could smooth out all the internal relations in the brigade. On the spot I could make an agreement with the driver of a passing bulldozer to push a rake or something for us for a little money or out of friendship. But I tried to stay away from the administrations of the enterprises where we were hired. This is not only because I was not very good at filling out orders and other paperwork. Even at first glance I did not inspire confidence or sympathy in the managers: to some I seemed too polite (at the first meeting an administrator would use the familiar form of address when talking to me and I would use the polite one), and others thought that I was too self-confident. Therefore I turned over the mission of the middleman to Valentin, a docent, and a teacher of economics in the VUZ. He carefully handled the supply, all accounts and all negotiations with the organization that hired us. It was not only his education that helped him in this--he was older than the rest of us and he had a firm grip on life. Sometimes he even had to be diplomatic. For example, we did not like it when the administration would come to our project. The brigade would immediately stop working (so that they would not try to teach us to work in a different way), but the "diplomat" was the only one who would speak with the administration, trying to get them away from the work site as quickly as possible. "In order to maintain contact" Valentin would also have drinks with the management. He had acquaintances in the regional staffs of the SSO's [student construction detachments] who "documented" our brigade as a student construction detachment and issued us a paper with a stamp. And certain managers believed that we were an SSO even without the paper, because of our word....

We followed the example of many young "wild" brigades and passed ourselves off as an SSO. We did this because of the benefits: members of an SSO received travel pay and they did not have to pay income tax. When working next to a real SSO, we camouflaged ourselves: we would hang up a couple of banners with slogans and think up the most incomprehensible name we could (for example, "Ladaki"--one of the boys assured us that translated from Polish this means "tramps"). Once in a local newspaper there appeared an item about our "militant SSO and its commander with his energetic and expressive face." This made us laugh: that summer all my hair was shaved off and I looked more like a

prisoner than an SSO commander. But we worked more productively than the real SSO's did and the majority of us were also studying in VUZes--and therefore we thought that we had the moral right to those benefits that we accrued not altogether legally. We did not allow ourselves many other compromises. Our "diplomat" never took a bribe or offered one. Therefore on the whole we did not receive any more money than we earned. And this suited us.

JOURNALIST. THE HIGH LEVEL OF SELF-ORGANIZATION AND SELF-DISCIPLINE AND THE QUICK LEARNING OF THIS "WILD" BRIGADE ARE THE SAME AS IN THAT FIRST ONE WHERE VIKTOR PETROVICH CAME IN CONTACT WITH WORK ON TRAVELING CREWS. THE FACT THAT THE ATMOSPHERE IN THIS ONE IS LIGHTER AND THE INTERNAL COMPETITION HAS BEEN REPLACED WITH SOLIDARITY ARE BASICALLY TO THE CREDIT OF THE LEADER. A TOLERANT ATTITUDE TOWARD THE WEAK AND INTOLERANCE OF SELF-SEEKING, THE DIFFERENTIATED (ACCORDING TO CAPABILITIES) DISTRIBUTION OF PHYSICAL LOADS IN COMBINATION WITH EQUAL (PRIMARILY) PAYMENT FOR LABOR--ALL THIS SHOWS THE HUMANISTIC BASIS OF THE INTERNAL LIFE. BUT IN RELATIONS WITH THE "EXTERNAL WORLD" THE PRINCIPLES ARE DIFFERENT. FOR INSTANCE, THE GOAL OF ALL OF THEIR STREAMLINING IS TO ACCELERATE THEIR WORK. ONE ONLY TRIES TO MAKE SURE THAT THE QUALITY DOES NOT SIGNIFICANTLY DETERIORATE. THEY ARE FORCED TO THIS NOT ONLY BY THE TIME LIMITATIONS BUT ALSO, POSSIBLY, BY THE INADEQUATE INCENTIVES FOR QUALITY IN CONSTRUCTION WORK. THE BRIGADE TAKES ADVANTAGE OF "DIPLOMATIC" CUNNING IN RELATIONS WITH THE ORGANIZATIONS THAT HAVE HIRED THEM. ALL THIS IS VERY SIMILAR TO THE FUN CHILDHOOD GAME (ESPECIALLY THE "CAMOUFLAGE" OF THE SSO), BUT THE PURPOSE OF THE GAME IS PRACTICAL AND SERIOUS.... IN ESSENCE, THE BRIGADE HAS ALREADY ENTERED INTO A SUBTLE CONFLICT WITH THE CRIMINAL CODE, WHICH PROHIBITS PRIVATE ENTREPRENEURIAL ASSOCIATIONS TO REPRESENT THEMSELVES AS PUBLIC ONES. CONSCIENCE WILL NOT ALLOW THE COLLECTIVE TO TAKE BRIBES OR TO DO WHAT IS CLEARLY HACK WORK. BUT IS THIS EMOTIONAL BARRIER REALLY SO SOLID?

Although in our brigade we did not manage to avoid acts that border on legal violations, I can by no means agree with the widespread attitude toward traveling work crews as something semicriminal or with the fact that we are sometimes accused along with every one else of taking bribes, falsely increasing expenses, and engaging in all kinds of economic and financial violations and abuses. After all, many of the problems have nothing to do with the nature of traveling work crews at all. For some reason it is easier for the economic mechanism to accommodate inert and monotonous labor than the more natural pulsing rhythm, the "peaks" and declines of labor productivity. And--figure out this contradiction!--the better the traveling crew members work, reducing their time of rest, the harder it is for them to receive their just payment. There is not a single hiring organization that will reflect in their documents the workday which is too long or the labor productivity which is too high. They are afraid that they will be punished for violation of labor legislation which allows working extra only in exceptional cases, or they are afraid that their overall norms will be increased for all workers of the organization. Thus they artificially reduce the figures which subsequently people try to compensate for by artificially increasing them. In the work schedules they artificially increase the volume of work or add more working days in the table.... This balancing act between artificially low and artificially high figures is not all; it can also include bribes made to managers of the organization so that they "document" things a little better and pay a little more. This chain of obvious absurdities leads to abuses of

job positions, to waste of socialist property and to other crimes. And it begins with the fact that the desire to earn a considerable amount of money in a short period of time by mobilizing all of one's forces is still not recognized as legitimate since it agrees neither with the current economic mechanism nor with labor legislation.

Labor agreements between "wild" brigades and the administrations that hire them are documented on a general basis but they do not have legal force precisely because they do not reflect the overtime of the work crew members. And there are no guarantees that the administration will meet its commitments. Among those who hired us, we rarely found people who kept their word all the time and there were more who tried to derive advantage for themselves and their organization from our lack of rights and the fact that we were forced to take what we could get. There was no need for them to be concerned about our living conditions. Our working conditions and the organization of our work were guaranteed only by the word of our employers. We never encountered a single small organization which could continuously provide construction materials for 10 people who were working intensively. Because of this we had to reduce the brigade to five people. They tried to use us in lower-paid, disadvantageous jobs which local construction workers had refused. Or they paid us less than the amount agreed upon, saving their material incentive fund at our expense.

JOURNALIST. VIKTOR PETROVICH GIVES AN IMPRESSIVE MONOLOGUE IN DEFENSE OF THE TRAVELING WORK CREWS. OF COURSE HE IS INVOLVED IN THIS, BUT STILL.... IT IS DIFFICULT NOT TO AGREE THAT A FREELY HIRED WORK CREW, WHICH STILL HAS POOR RELATIONS WITH THE PLANNED ECONOMIC MECHANISM AND HAS NO CLEAR-CUT LEGAL STATUS, IS IN AN UNDEFINED, "SEMILEGAL" POSITION, AND IS ON A SOCIOECONOMIC PLATFORM THAT IS TOO UNSTEADY. IT IS NOT WITHOUT REASON THAT LEGAL EXPERTS COMPLAIN ABOUT TOO MANY CRIMINAL CASES THAT ARE IN ONE WAY OR ANOTHER RELATED TO MEMBERS OF TRAVELING WORK CREWS. HAVING RECOGNIZED ALL THE VULNERABILITY OF THEIR POSITION, ONE ATTACHES CONSIDERABLY MORE IMPORTANCE TO THE SPIRITUAL BARRIER WHICH MAKES IT IMPOSSIBLE FOR VIKTOR PETROVICH AND HIS "WILD" BRIGADE TO TAKE BRIBES OR TO DO REALLY BAD WORK. ONE SEES EVEN MORE CLEARLY HOW UNSTABLE THIS BARRIER IS WHEN IT IS ON UNSTEADY GROUND. SCIENTISTS DRAW ATTENTION TO THE DANGEROUS POSITION OF TRAVELING WORK CREWS, DEMANDING THAT THEIR SOCIOLEGAL STATUS BE CLEARLY DEFINED AS THAT OF MEMBERS OF A TEMPORARY COLLECTIVE WITHOUT DISTRACTING FROM THE STRONG POSITIVE ASPECTS OF TRAVELING WORK CREWS. (FOOTNOTE 3) CERTAIN POLICE WORKERS AND ASSOCIATES OF LEGAL PROTECTION AGENCIES INSIST ON PROHIBITING THIS KIND OF WORK. IF ONLY IT WERE POSSIBLE TO ELIMINATE IT WITH A DECREE ALONG WITH ALL THE SOCIOECONOMIC ECONOMIC CONTRADICTIONS RELATED TO THIS PHENOMENON....

We also tried not to let down those few managers who did not try to deceive us. The most favorable relations were with the geological party from Krasnoyarsk Kray. The leader of the party arranged for a reasonable supply of construction materials and settled with us honorably, according to the agreement. We worked two seasons in their settlement. We intended to complete the construction of all the housing, but then a garage burned down and they asked us to build a new one. As the work was coming to an end, I strained my back while lifting something heavy. I lay in bed for 3 days (we had unofficially agreed that 3 days of illness would be paid for at half the

usual rate and there would be no pay for any more). At that time the leader of the party came to see me. He mentioned a trade union meeting at which many people had expressed dissatisfaction with the fact that the construction of the housing had been halted. He could see my condition, but he had nobody else to turn to....

As I expected, the boys were not very happy about my suggestion to construct one more residential building before leaving. They were tired and they already had their plane tickets in their hands.... I asked the adolescent Serezha: "And will you stay with me if they all leave?" "Yes." Serezha is the younger brother of my permanent fellow worker, Oleg. We paid him less than the others but we did not consider him a burden. He kept house, took charge of the kitchen, and at the construction sites he worked as hard as he could. And he had enough conscientiousness and enthusiasm for three people. I thought that such an assistant would be enough for me. But immediately all the other guys became ashamed and said that they would not leave me alone. They did not turn in their tickets because they did not believe that we would manage to complete the construction of the garage and build another building. The next day I got out of bed, put on a weight-lifter's belt and worked right along with the rest of them. Our last "work day" lasted 36 hours. We installed lights at the site and completed the building at night. The boys fell asleep while they were putting the slate on the roof. September in Siberia is cold and rainy. We were soaking wet. There was no time to change clothes. In the morning when the local residents were going to work, we completed the construction of the building to their surprise and joy, we soaked in the bath which they had prepared for us, and we managed to catch our plane.

We had our highest earnings that season: 2,400 rubles each for 70 days. Although we did not knock ourselves out finishing the construction of the building for the sake of money, the leader of the party considered it his duty to reward our efforts (from the reserves of the geological "field fund"). We flew home via Moscow and left half of our earnings in the Gum. Here also we bought all new clothes and threw our old ones away.

At home I spent about 3 more days in bed. I had a cough and a cold and I was weak.... During the season we did not catch cold even though we froze in our billets at night and worked in the rain more than once. But as soon as we returned home it was always the same story.... But after such hard work it was even pleasant to spend about 3 days in bed. I regard this not as payment for working too hard but as a reward.

JOURNALIST. THERE ARE YOUR TRAVELING WORK CREW MEMBERS, SELFISH SOULS! I WAS IMPRESSED BY THEIR ESSENTIALLY SELFLESS ACT (AFTER ALL THEY COULD NOT COUNT ON A REWARD) AND THIS WAS A 36-HOUR WORKDAY. FOR WHAT?--IN ORDER TO HELP A PERSON. WELL, OF COURSE, ALSO OUT OF YOUTHFUL PRIDE AND FOR THE SAKE OF SELF-ASSERTION. VIKTOR PETROVICH WANTED TO PROVE THAT HE KEPT HIS WORD AND THE OTHERS WANTED TO PROVE THAT THEY WERE NOT WEAKLINGS. THE WORK CREW MEMBERS ACTED LIKE REAL MEN. I REMEMBER EVERYTHING VIKTOR PETROVICH SAID ABOUT THE NEED FOR SELF-ASSERTION, THE RISK AND THE EXCESSIVE LOADS, THE DESIRE TO MAINTAIN HIS FAMILY INDEPENDENTLY, WITHOUT HELP FROM THEIR PARENTS, AND TO BECOME THE MAJOR BREADWINNER. I HAVE A THOUGHT: PERHAPS THE PEOPLE WHO GO TO

THE "WILD" BRIGADES ARE MAINLY REAL, THAT IS, NOT EFFEMINATE, MEN, WHOSE STRENGTHENED ENERGY, INITIATIVE AND ENTERPRISINGNESS HAVE NOT BEEN ADEQUATELY APPLIED IN THE OFFICIAL WORK PLACE? (AND THEN "SIMPLY TO PROHIBIT" THIS KIND OF WORK--WOULD THIS NOT MEAN TO SHUT OFF A FAUCET THAT IS PROVIDING AT LEAST A VISIBLE OUTLET FOR THESE FORCES?) IN THE UNIVERSITY VIKTOR PETROVICH DURING THIS TIME REMAINS AN "UNNOTICED SERVICE WORKER"--BUT IN THE "WILD" BRIGADE HE IS AN OUTSTANDING LEADER. ALL OF THEM ARE QUITE DIFFERENT IN THE CITY. THEY ARE ACCUSTOMED TO CONVENiences AND THEY ARE NOT INDIFFERENT TO "FANCY CLOTHES" AND OTHER TEMPTATIONS OF CITY LIFE. THE UNUSED RESOURCES OF STRENGTH, ENERGY AND INVENTIVENESS LIE DORMANT IN THEM UNTIL THE NEXT SUMMER WHEN AGAIN THEY CAN FOR A TIME ABANDON THE HABITS THAT WEAKEN THEM AND BREAK OUT OF THEIR DAILY STEREOTYPES. A DOUBLE LIFE. WHEN CROSSING THE BOUNDARY BETWEEN THE RISK-FILLED LIFE OF THE TRAVELING WORK CREW MEMBER AND THE LIFE OF A MODEST URBAN EMPLOYEE THEY PAY. PERHAPS THE COST IS MORE THAN JUST A SLIGHT INDISPOSITION.

Our "wild" brigade was relatively lucky. Never once were we taken to court. But we stayed on the brink of criminal liability. That summer I became a correspondence graduate student and did not intend to earn extra money, but the rest of them decided to go. They took two newcomers with them. They were short a commander. They persuaded me to go with them just for a week, to "wind up the spring." They promised to pay me for these days at a higher rate, and I must admit that I was flattered by this recognition of the advantages of my experience and initiative.... Soon after I returned to the city I received a telegram concerning an accident. A newcomer had fallen from a scaffolding. There was a fracture at the base of his skull. The fellows carried him more than 2 kilometers to the helicopter pad. One of them flew with the patient to the hospital in order to care for him until he regained consciousness. The rest of them drank themselves into a stupor for the first time in their lives as traveling work crew members.

Fortunately, the injured person recovered. But if he had died or had been left an invalid the brigade would have been held criminally liable. For in the forests there were no restrictions or provisions concerning safety techniques. During the first seasons we even worked without scaffoldings and then later we learned how to build them. But they were makeshift. The traveling work crews only imitates safety techniques for people who are inspecting. But I, my work comrade Oleg, and several other of the boys from the brigade when we were a little younger even laughed at the risk: "Kapitalka" (a wall 10 cm wide), straightening ourselves up and balancing like tightrope walkers. While working on the roof I would show off my fearlessness and athletic agility (in my childhood I was a gymnast). We had minor injuries but only once was it life-threatening. The brigade was frightened. They said that the newcomer was himself to blame and even that he had let the others down. They recalled that they did not want to take him--he did not look strong. But one acquaintance said that this chap had golden hands and head. His hands and head were suitable for work, but after the accident (and he probably fell because he was dizzy from being overly tired) we decided not to accept anybody who was physically weak for any reasons.

JOURNALIST. NONETHELESS THE QUALITY AND TECHNIQUES OF SAFETY WERE THE "ACHILLES' HEEL" OF THE TRAVELING WORK CREW MEMBERS. IN ANY EVENT, THOSE WHO LEAD A DOUBLE LIFE WERE IN A HURRY TO RETURN TO THEIR PERMANENT WORK PLACE. INCIDENTALLY THE "WILD" BRIGADE IGNORED SAFETY TECHNIQUES ONLY BECAUSE THEIR TIME WAS SEVERELY LIMITED. OBVIOUSLY, THE YOUTHFUL NEED TO TAKE RISKS WAS ALSO MANIFESTED HERE. HAVING EXPERIENCED THE FEAR OF CRIMINAL LIABILITY, THE BRIGADE BEGAN TO REGARD ITS SEASONAL TRIPS MORE SOBERLY AND TO DISPEL THE SMOKESCREEN OF ROMANTICISM. THEY WOULD NO LONGER TAKE WITH THEM EITHER THE "SOUL OF THE COLLECTIVE," NOR THE CHAP WITH WEAK LEGS WHOM VIKTOR PETROVICH HAD DEFENDED AT ONE TIME, NOR THE ADOLESCENT SEREZHA, WHO AT A DIFFICULT TIME WAS THE FIRST TO SUPPORT HIS COMMISSAR.... THE YOUTH OF THE "WILD" BRIGADE HAD COME TO AN END.

Our brigade never went anywhere again. When we would get together we would think about past trips. The docent Valentin said that that was "real life." In the "wild" brigades we learned everything that a real man should be able to do but city dwellers are not always able to do. I acquired a half-dozen occupations--mainly having to do with construction. In the Siberian settlements, despite our purely businesslike attitude, we found good friends. They invited us to come for more than just work. One season in Krasnoyarsk Kray we took it easy: we shortened the work day, cut down the rate of speed, and freed up some time for hunting, and we even went after bear. I flew there myself when I wanted to live alone in the forest.... My city friends were surprised: How could I allow myself such an insane luxury? Where would I find the time and money? It is simply that I see the possibilities of choosing variations on behavior in places where many people do not notice them. This is only because of the lessons in life I learned in the "wild" brigade.

After the VUZ I was supposed to go into the army. They sent the notice, I quit my job, and then I went to the military registration and enlistment office and postponed my enlistment. I had to return to work in the university laboratory. When they called me up and after the second notice the managers asked me with annoyance: "Are you going or not?" They had already agreed to temporarily hire another person for my position and he was waiting. I decided to turn the confusion to everybody's advantage. No one would check to see whether or not I was working up until the last day before I went into the army. That is the way it turned out. I went into the army in the spring, but after the December notice I did not go back to work, I borrowed some money, I took a rifle and flew to the other end of the world. My wife and her relatives did not like my recklessness but our relations were not such that I worried about all of their wishes.

In a Siberian village I used the rest of the money I had to buy some felt slippers, some flour and some other groceries. A beekeeper I knew, Dyadya Vasya took me to a hut in the forest near where the brigade had constructed a heated structure for bees the summer before. He left me some potatoes and instructed me to check on the temperature in the structure where the bees were already spending the winter. I lived in the forest along for 4 weeks: I hunted, read, wrote in my diary, listened to music on my transistor radio and thought. I would have stayed longer but I ran out of firewood. I did not have a single kopeck and home was thousands of kilometers away. I went to the

leader of the geological party whom I had helped out once. He was glad to see me: "I was just thinking about you." We must quickly move a residential building from an abandoned village. "But I cannot pay you as well as I did that summer." "Well, can you give me 250?" I asked, figuring out how much it would take me to get home and to pay back my debts. We agreed. They gave me three men to help me. I used my advance to buy concentrated food, and they bought vodka and immediately drank it all up. I was thinking about how I was going to keep this band in hand. In the abandoned village I told them in a steely voice: "We will not leave here until we have taken the building apart and loaded it." I fed them with my own concentrated food and rabbits that I trapped. The men worked. But when the construction material was delivered to the geologists, they started drinking and went crazy. I put the building back together without them, and other assistants were sent.

One cannot count on this kind of people if it is a long job, but it is possible if the "labor agreement" is for a short period of time. Incidentally, traveling work crews hire these people for emergency jobs. These people frequently hang around the traveling work crews--either in the hope of getting some quick money or else they feel an internal kinship. Both kinds of people are out of the ordinary paths of life. But dissatisfaction with life causes the traveling work crews to manifest initiative (to be sure, in an "unofficial" way), but it has led these natives to apathy. They have no social orientation while the traveling work crews know precisely what they want. These natives, as a rule, are incapable of becoming members of the work crews, but the work crew members if they have lost the hope of changing their destiny filled the ranks of these natives. I hope this will happen to me.

#### In a State of Weightlessness

Having put together the building for the geologists I hurried home, for my wedding anniversary, since I wanted to strengthen my relations with my wife. This thought came to me while I was living alone in the forest. I thought about this and about the army. I had always thought that the family should be the main support in life. That is why I had invested so much effort in strengthening the family budget. But I did not find any spiritual support in my family. My relations with my wife were not very significant. We almost never communicated. While I was a student we only saw each other late in the evening and on my days off. And every summer I went to earn money.... Now I had decided to find additional earnings in the city. I felt that I could not get along without any additional earnings at all. I now saw that even if I defended my dissertation, it would not be soon and until I did they would not give me more than 120 rubles in the scientific research institute. And it was time to have children, since I had been married for 5 years.

An acquaintance of mine who treated the back injury I had sustained on the "work crew" with massages taught me the massage technique. For about a year and a half I earned money this way. During the break between when I left the university and found a job in the Scientific Research Institute of Psychology this side work was all I had. When I was in the university they asked me: "Is it true that you want to leave us?" I answered: "It is true." And I immediately turned in my resignation. I did not want to deceive the managers,

for I had already been looking for a new job. But my negotiations with the Scientific Research Institute of Psychology had not been completed yet and they did not hire me for a couple of months. This was the first interruption in my continuous work service. Several masseurs worked side by side, separated by room dividers. The room was not ventilated, and there was not even any place to sit down. They only gave us one sheet for the entire shift. I would bring another one from home and try to create a minimum of comfort for the clients. When they gave me "tips" I did not refuse for the wages of a masseur are only 65 rubles. But I did not give any privileges to the ones who paid; everybody stood in the same line. I managed to fill my norm, without taking a rest, before 1 and I immediately left. They did not keep me from doing this until a new head physician was appointed to the polyclinic. She said that my behavior was breaking the collective apart; they were all dissatisfied with the fact that I would leave at 1 while others had to sit there until 4. "If the collective wants for me to sit around here doing nothing for 3 hours I do not need such a collective." I left.

By that time it was clear to me that neither regular earnings on the side nor living in the city without ever leaving would enrich our family life. Neither in the literal nor the figurative sense. Frequently I did not even have change for pocket money because I put all my money "into my home." My wife and I lived in an entry room where my mother-in-law could come in at any moment without knocking. The television was on every day at full volume and it was hard to read and think.... Although my wife and I had now been together for a long time, our relations have not become any more significant and she had never tried to understand my desires and my "illogical" acts.

I left my family a year after my son was born. I did not divide up the property or try to get credit for the furniture we had recently purchased; I paid for it all myself. All I took with me was a suitcase and my "fancy clothes." At first I would spend the night with friends and then in an empty apartment next to my wife's. They did not put new inhabitants in here because the building was to be torn down. I slept on the floor on an air mattress. I would think: Soon I will be 30, I have not found my place in life and I am not even on the waiting list for housing. On the advice of a legal consultant I knew and under pressure from my former wife's relatives, who were demanding that I take my name off the register for their apartment as quickly as possible, I went through dozens of offices, filled out a stack of paperwork and experienced immense stress because of it, after which they assigned to my wife the apartment where I was spending my nights. And when they decided to tear the building down, I "automatically" received a one-room apartment in which I am now living. This is my only reliable refuge. Everything else is uncertain, unstable, and changeable.

My second marriage broke up after 4 years on my wife's initiative; she became bored with the romantic and philosopher and his low wages. From my observations, instability of family and marital relations are typical of most members of traveling work crews (this is what I consider myself to be). But does this always mean vice or incipient derangement of the personality? Hardly. I even think that I could have stayed with my first or second family only if I had been destroyed and had suffocated something important in myself.

About 3 years ago I registered my third marriage. Lida and her son came from a husband who was well-to-do and an overachiever at work. Like me, she did not feel that her inner feelings were understood well enough. She supported me after I left the Scientific Research Institute of Psychology. We lived for a couple of months on Lida's wages and continued to work at home on the subject that I had started in the institute. Then I began to look for jobs. But I could get a job neither in a scientific research institute nor at any other scientific or semiscientific work. The doors to a creative career had been shut for me. Although I am not inclined toward mysticism I had the idea that I was being pursued by evil destiny. Even my friends could not help me--I would not longer refuse it. An associate of the republic ministry of health to whom I had given therapeutic massage promised to get me a job as a psychologist. But at that time the wages were raised for medical workers and the government put out a decree prohibiting work in medical institutions in anything but one's own specialty. Now even a "hand in the ministry" could not get a job as a psychologist for a person with a diploma in biology.

I lived without any work for a couple of more months. I sold everything of value to a second-hand store, but the money was not even enough to pay my debts. I somehow felt weightless. I remembered the traveling work crews. But my previous comrades from the "wild" brigade had settled down and did not intend to travel around for extra earnings. I started to look for a new company.

JOURNALIST. FOR SOME REASON I PAID ATTENTION TO THE IMPETUOSITY OF HIS DEPARTURES--WHETHER IT WAS FROM WORK OR FROM HIS FAMILY. HE WOULD LEAVE "OUT OF PRINCIPLE," NOT BURDENED BY PROPERTY, WITHOUT HAVING PREPARED A BASE FOR HIMSELF IN THE NEW PLACE.... BUT COULD ONE NOT SEE BEHIND THESE UNCOMPROMISING DEPARTURES THAT "IRRATIONAL NOBILITY" WHICH IS SO RARE IN TODAY'S LIFE THAT WE HAVE ALREADY FORGOTTEN HOW TO RECOGNIZE AND VALUE IT? HIS PRINCIPLES OF HONOR (NOT BICKERING ABOUT PROPERTY WHEN DIVORCING HIS WIFE; NOT BEING PUSHED ABOUT BY HIS MANAGERS AND NOT PRETENDING TO WORK IN AN OFFICE THAT HE HAD DECIDED TO LEAVE; NOT TO SUBMIT TO THE DEMANDS OF THE FORMAL DISCIPLINE OF "SEEING THINGS THROUGH TO THE END," AND SO FORTH) BY TODAY'S STANDARDS ARE ALMOST ASOCIAL, SINCE THEY LEAD TO AN INSUBSTANTIAL SOCIAL POSITION, TO WEIGHTLESSNESS, AS VIKTOR PETROVICH FIGURATIVELY EXPRESSED IT. THE FURTHER HE GOES, THE MORE DIFFICULT IT IS TO ENTER INTO FORMAL STRUCTURES, AND THE MORE RAPIDLY AND EASILY HE ENDS UP ON THE OUTSIDE (HE WORKED IN THE UNIVERSITY LABORATORY FOR ALMOST 13 YEARS, IN THE SCIENTIFIC RESEARCH INSTITUTE OF PSYCHOLOGY--2 YEARS, AND THEN HE LOOKED FOR A JOB FOR SEVERAL MONTHS). HIS SOCIAL STATUS WAS UNDERMINED AND EVEN THE COMPROMISES TO WHICH HE RESORTED MORE AND MORE FREQUENTLY COULD NOT HELP HIM STABILIZE HIMSELF.

#### Mirages of a Distant Island

Do you recall that I said that my friends and I did not go to the Siberian villages for the sake of money alone? We were young and believed that all the best was ahead of us. Now I had lost hope of a bright future. I left for the traveling work crew in the only pair of pants I had left. I traveled with people I did not know for the sake of money. We set out for the island. Its population was supported basically by fishing and sea industries. They did not have enough of their own construction workers. And there was a great deal

to construct. Therefore the traveling work crew members on the island earned plenty and here it was possible even to get into the business of recruiting people and organizing brigades of traveling work crews. Our varied brigade came through this kind of illegal recruitment. The head "businessman"-organizer met us at the airport and bedded all six of us down in his one-room apartment. Until he could give us an advance he fed us at his own expense and prepared the meals himself. It was clear that he felt a responsibility to the people who had come thousands of kilometers in response to his invitation.

He was over 30 but everyone called him simply Kolya. He had been born here on the island. As an adolescent he made the rounds of the local sports competitions and dreamed about becoming a famous athlete. But out of solidarity with a friend he got involved in a severe fight and ended up in jail. He had been married three times, but each time it ended in divorce. The local residents did not take him seriously because Kolya could not hold onto his money. He would lose it in card games and buy expensive gifts for women, but he himself would go around almost in rags. Like the majority of traveling work crew members, he believed that he would not be doing this for very long. Just until he could save up enough money for his imaginary marriage with a resident of a large city and break away, finally, from the island into the mainstream of life, of which he had a very foggy idea. And before departing he would construct something that people needed. So that everyone would say: "Kolya built that." For example, a dam (there was not enough drinking water on the island). Year after year Kolya would drink, play cards, play the swindler, and do hack work--but his unfortunate childhood dream still lived...

Kolya first joined a traveling work crew when he ended up in a brigade of Armenian work crew members, but he became a recruiter-organizer through his own inspiration. He had extensive ties. With some supervisors he would make agreements concerning the work front, with others--the delivery of construction materials that were in short supply; but Kolya was "paid" in labor force, which he would send to a "creditor" if he had to. Kolya's friend would go to the large city where he had acquaintances and with their help he would put together a brigade. In order to "pay for his trip" he would take with him fish products that are in short supply and sell them at restaurant prices to people he knew.... Kolya's friend told our brigade: "If you work well you will receive 1,000 rubles a month." (Later I learned that Kolya promised everyone this "salary." He himself would not agree to work for less than 1,000 rubles).

Judging from the way our work on the island began, there was not much hope for a thousand rubles. While we were on our way there, the advantageous project Kolya had promised had "burned," that is, it had been taken over by other people. Kolya immediately signed a contract to build wooden buildings for a kolkhoz. The brigade could not work long. Two of the men would run around and drink at night, and during the day they could hardly move. I said to Kolya: You must get rid of them. Kolya did not agree. He and I had completely different opinions. When he learned that I had been in charge of a brigade Kolya recognized me as his equal and discussed all the difficulties in relations with the administration that had hired us. But he did not think it was necessary to let the others in on all the fine points. All they had to do was make the others work. Responding to Kolya I said that relations within

the brigade should be arranged on honesty and complete candor. I said that one should not force people to work, that this would not produce maximum labor productivity. It was necessary for each person to work conscientiously as hard as he could. I knew from my own experience that it was better to deal with a small brigade--so that it could be continuously supplied with construction materials. But Kolya preferred large brigades--with them he did not have to work; he could simply "push" the others and act as an intermediary in relations with the organizations that hired them. With a large number of workers the accounting was complicated but Kolya was up to this as well--he would fish in troubled waters. But I still insisted: our brigade was divided into two teams and the "nets" were put in different places. As I had figured, even the best of the brigade could not keep up with their work. The others did not have to be pushed.

But there were no more reasons for disagreement. Kolya was accustomed to risky hack work. My former brigade had not been without blame either, but we did not do hack work, which involved danger to life. For instance, I could "install" the kitchen stove without a foundation, but on the island it was considered mandatory to take earthquakes into account. Kolya threw up his hands: "Well, that's the way it goes." He won. All my arguments about the limits of permissibility of hack work seemed naive here. It seemed to me that on the island they were generally more tolerant than they were in Siberian villages when it came to hack work. Perhaps because a mood of temporary residence prevailed here. Even the technology for the construction of the buildings was based on hack work: for example, the wooden beams were joined not with wooden dowels, but with metal nails. But how can one do high-quality work with poor supplies? Instead of two frames for each window they sent only one. We covered the roof only with slate, although we should have installed ruberoid as well, but they did not deliver it on time. We were frequently left without anything to do. We began to look for other work. The managers of the kolkhoz decided to keep us by any means. They blamed us for doing slipshod work.... They refused to pay for the work. The contracts that were previously filled out had somehow disappeared. When I raised a ruckus the norm setter wrote out new ones and I took them with me so that they would not get lost. I did not think to make a copy. They took advantage of my inexperience. After a lot of trouble, they paid us for the work, but not as much as was indicated on the contract: they said that I had taken them from them.

We took them to court, demanding that they pay us for the work according to the orders and that they reimburse us for losses during 2 weeks when we were forced to be idle while straightening relations with the kolkhoz. To be honest, we were not idle during those days. But only because of our enterprising. While still employed by the kolkhoz, we signed on at the banquet hall of a restaurant in a nearby city. We were "incited" to this by an artist-decorator who ended up in our brigade; we divided into two teams; one completed the work on the kolkhoz while the other went to the banquet hall. Here in 2 weeks we earned 600 rubles each, partially compensating ourselves for the misfortune on the kolkhoz. But we did not win a victory in court, although we wanted at least to punish the managers with nervous strain for their unbusinesslike and unacceptable behavior. Actually the court denied our suit for additional payment, although it did make a court report

concerning the managers of the kolkhoz. Incidentally, it was read not in our presence, but when only the judges and the managers being "judged" were the only ones left in the office of the kolkhoz chairman, where the proceedings were taking place.

Before the proceedings and afterwards, right up until the time we left the island, we were tormented by fear. We thought that suddenly they would discover that the construction materials were missing from the kolkhoz. We did not have enough materials to finish the banquet hall and I suggested that we take whatever we needed from the kolkhoz--recently they had received everything necessary for the construction of housing. Surprisingly, Kolya, who is not afraid of doing hack work and taking other people's money, was afraid this time.... I persuaded him by saying that the construction materials had probably not been counted or measured. Right out in the broad daylight, we drove up an Ural and loaded it to the top. If any of the kolkhoz workers had seen us, they did not suspect anything: after all, we were still assigned to the kolkhoz and recently had used the same materials here. I thought that we had a right to do this. After all, the managers of the kolkhoz were not playing a fair game with us. We did not actually appropriate these materials and we took no money for them. We took payment only for our work. And the construction materials thus remained the property of the state, it was just that we, at our own risk, transferred part of them to another place, we took advantage of the "gap" and filled in the vacuum formed by inefficiency. The kolkhoz actually never discovered the shortage.

JOURNALIST. SO THE THEFT WAS NOT REALLY A THEFT AT ALL.... BUT BEHIND HIS PRECISE JUSTIFYING LOGIC VIKTOR PETROVICH CERTAINLY DOES NOT FEEL VERY SECURE; IN THE NARRATOR'S VOICE EVEN NOW ONE CAN HEAR A LACK OF CONVICTION. THE "ISLAND" PERIOD WAS A NEW STAGE IN THE EVOLUTION OF THE TRAVELING WORK CREW MEMBER. MORE SEVERITY IN RELATIONS WITH PEOPLE, MORE RISKY ENTERPRISINGNESS IN RELATIONS WITH ORGANIZATIONS, LESS "IMPRUDENT NOBILITY." ALTHOUGH IN MANY OF HIS STATEMENTS ONE CAN STILL CATCH A GLIMPSE OF THE FORMER COMMISSAR.

While working on the banquet hall I opened up new possibilities for myself. In childhood I had done a little drawing; now my hand quickly "remembered" everything it was able to do and my imagination and taste came from nature. After working side by side with the artist-decorator, I saw that I could do many things just as well as he could. We became convinced that decorating work was more advantageous than construction work. And in that same city we suggested that instead of a glass, rather dirty beer pavilion, constructing a cafe like those in large cities with automatic coffee machines, wine cocktails and so forth. Having reached an agreement, the brigade went home to rest. But the only professional decorator with us on the island did not return with us and promised to come later. But the office with which we had made the agreement concerning the cafe wanted to deal only with a "real artist." We waited for him for a couple of weeks, making small amounts of money wherever we could. He never came. I told the supervisor that I would construct the cafe myself. Not really believing in me, the supervisor decided to pay me in stages, for the work that had been done. I took with me a person with whom I had worked here all the time. Kolya did not come with us--the brigade was too small.... Having put together a box-like structure for the cafe, we left Kolya and went to live there, although it was dirty and cold.

I unexpectedly became involved in my new work. In this city there was no place where one could spend a pleasant evening. The restaurant was such that it was nauseating to sit there, and there was only way out--to get drunk as quickly as possible.... They did not let the ordinary customer into the banquet hall that we had decorated previously. But in the cafe, anyone who wanted to could sit there and drink coffee or a cocktail and listen to the music. I felt like a missionary who was bringing the culture of the European city to the ends of the earth. The embossed ceilings overhead, comfortable fabric drapes, cast plaster candleholders, wooden panels, stained glass over an entire wall...it took 40 days to ship the stained glass. My partner and I did almost everything ourselves, and we hired local workers only for a short period of time. My partner (his name was Slava) was completely obedient to me at first. But I decided to develop initiative in him. When giving him work I explained how to do it and said: "And if you can do it better, go ahead." His initiative developed to such an extent that he began to doubt my most original decorative solutions: "Well, Viktor Petrovich, that is what you think.... That is not how it is done." In order to reinforce his authority I would bring in a local sculptor or artist and he would condescendingly evaluate my idea: "There is something in it."

But our relations with the people who were giving us the work did not please us. Once the supervisor paid us only 200 rubles in a month. "But you can see that this work is worth more." "Show us the prices," answered the supervisor. I did not have the receipts. And the supervisor and I began a game of "tug of war." He would document everything for us at the cheapest possible rate and I would try to make up for it by making the other work as expensive as possible. Thus I learned how to balance between artificially low and artificially high reported costs. I "documented" people who were not actually working. To do this I took the labor book from local workers who did not need them any more or from local resident who were on vacation (here it is so long that they are permitted to take back their labor books). I checked to make sure that each fictional worker did not receive more than 300 rubles (with a larger sum they reduce or even completely eliminate the zonal coefficient). In this way I "padded" the overall earnings for the coefficient a little bit, but I had to give some of it back to pay for using the labor books, for taxes, for maintenance and so forth. But the supervisor himself had been a traveling work crew member at one time and saw all of my tricks--and he kept his own accounts. He thought, for example, that a work crew member should not be paid more than 700 rubles a month and everything in excess of this sum he cut. He added: "I want to sleep in peace!" He looked suspiciously at the brochures and books I had brought with me and leafed through during my spare time. And I teased him: I said that I was studying island life and was going to write an article about how they steal here. The supervisor remembered my jokes.... And my partner and I were left high and dry. They would not ship the necessary materials. Of course they did not pay for the time we did not work. There was no way out. I tried to give the supervisor incentive to get the supply workers going. I invited him to "take a share," to take some of our earnings. This was the first time in my life I had offered a bribe.... The supervisor refused, although I already knew that he did take bribes.

I looked for other ways of controlling the situation. I decided to expand the work front. I made the acquaintance of the daughter of a plant director and she was feeling cramped living with her father. He suggested that we build a Pioneer camp on the grounds of the plant. "How much will you give me?" "Well, 700-800 rubles a month each. I cannot give you any more, they will start talking...." The director promised to "document" two "extra" people. I went to see the local artists: "Do you need bread?" (Footnote 4) The idea was simple: I would invite the artists to design the Pioneer camp and my partner and I would continue to work on the cafe and all of us would be teams of a single brigade and we would divide up the earnings equally. If one team had idle time, it would help the other.... But the artists suspected a trick. It was difficult to talk with them. They were suspicious and did not communicate much with one another. Some would work in hiding from the rest so that they did not snatch up the order. Others would drink, take time off, and sit for months without any work. I persuaded two of these. I was worried for a long time: how much would I get from them? "If you want to pay me I will not refuse, if you do not want to just consider this work as a gift to you." Having hired them I returned to the cafe where, finally, the materials had arrived, and I did not get back to the plant and the newly formed team for a month. When he saw me the director said: "Straighten this mess out. They are all saying that you and I have documented extra people." And the decorators were mumbling again: they thought perhaps I was deceiving them. I became angry and said that I was leaving them--however much they earned was how much they would get. I signed on for the Pioneer camp and the people I had hired began to drink. I found other artists to work on the plant territory. The organizational activity to which I had been pushed by Kolya's example turned out to be almost selfless. The first team never paid anything, the second left me 20 rubles in debt and also looked at me suspiciously. But the director trusted me. When the work on the territory of the plant was completed I went in to him and asked if he were satisfied with the work "my" people had done. Yes, extremely! He was sad to learn that I would soon be going home--after all he needed to work on a plant club and dining room. I listened to his proposal and promised to think about it....

JOURNALIST. THE QUESTION FAIRLY BURST FROM ME:

"ARE THERE MANY OSTAP BENDERS AMONG THE TRAVELING WORK CREW MEMBERS?"

VIKTOR PETROVICH DID NOT ANSWER AT ONCE: HE WAS TAKEN ABACK BY THE QUESTION. "IN PURE FORM I DID NOT MEET SUCH OPTIMISTS, BUT THERE ARE MANY 'HALF BENDERS'."

HE WAS SILENT FOR A WHILE:

"I AM NOT A BENDER."

BUT STILL IT WAS NOT WITHOUT REASON THAT I RECALLED THE ACTIVE LITERARY HERO WHO COULD NOT FIND POSITIVE APPLICATION FOR HIS TALENTS IN THE OFFICIAL STRUCTURES. WITH THEIR SUPERHUMAN ENERGY, THEIR ENTERPRISINGNESS AND THE ADVENTURISTIC INCLINATION OF "BUSINESSMEN," KOLYA AND VIKTOR PETROVICH HIMSELF IN THE PRESENT PERIOD REMIND ONE OF THE IRRESISTIBLE BENDER. ONLY THEY ARE TOO INTROSPECTIVE AND THEIR OPTIMISM HAS DISSIPATED. AND PERHAPS THEY HAVE LESS RESPECT FOR THE CRIMINAL CODE THAN OSTAP DID. THE OLDER BROTHER OF THE ISLAND WORK CREW MEMBERS, THE "INDEPENDENT ENTREPRENEUR" OSTAP DRIFTED TO THE

FRINGES OF OFFICIAL STRUCTURES, TO THE HAZY FARAWAY PLACES, TO RIO DE JANEIRO. BUT VIKTOR PETROVICH STILL WANTS TO GO HOME. AND HE STILL HAS NOTHING AGAINST FITTING INTO STRUCTURES. BUT IT MUST BE DESIRABLE, NOT AS AN APARTMENT MANAGER....

When the cafe was finished, my partner wanted to stay there to manage the cafeteria and I went home. Before my departure the local sculptor--an alcoholic and a semicivilized native--asked me to be his intermediary in negotiations with the administration of a medical dispensary (I had already gained the reputation of a businessman). He showed his sketches of wooden flower vases to stand on the floor in the dispensary. And he put luxuriant vegetation in beggars' boxes. They liked the sketches. Moreover, the managers of the dispensary had to spend some money quickly, before the end of the year--"otherwise they would take it away." It was tempting.... And I did not really want to go home with empty pockets. For the earnings on the island were less than I had expected. I sent about 400 rubles to Lida so she could take a vacation with our son. And I had spent almost all the rest of the money without noticing it. On the island I did not live as economically as I had during my short work trips as a student, and I sometimes went to the restaurant.... Therefore my real earnings were now almost negligible. We agreed: the sculptor would make the sketches and I would do the work. I decided to go ahead and risk it! Whatever I undertook, it all worked out. The sculptor did one sketch, and then he got drunk. But in a week I was able to draw three more sketches and make the four vases. I worked from morning to night, until I was dog tired. My former partner helped a little. Before that I helped to install furniture and equipment in "his" cafe and he took a blowtorch and burned my vases, which already had the ornamentation on them. I cleaned the soot off with a wire brush, applied floor polish to them--and the vases acquired that "antique" look. I thought up the technology myself. There was very little sloppy work. I did not have any dry wood on hand so I "carved" on green wood. When it dried out, there would be cracks on the vases but they could be filled in with something. I used the remnants of those same kolkhoz materials to make the vases....

But the management in the dispensary changed abruptly and the new people did not want the vases. I left them there, borrowed 500 rubles from a friend, and flew home. Having learned what had happened my former partner displayed unexpected enterprisingness. He promised someone a bribe after the papers signed by the former managers of the dispensary were submitted--and some of the money for the vases (400 of the 1,000 rubles) was sent to me in the mail.

JOURNALIST. I LISTENED TO VIKTOR PETROVICH TELLING THE ISLAND STORY WITH GROWING CONCERN. BRIBES, THEFT, HACK WORK, GREED--ALL THESE BECOME MORE AND MORE PROMINENT IN HIS ACTIONS AND HIS "MORAL BRAKES" HAVE WEAKENED. WHEN HEARING HIS STORY ABOUT THE VASES I RECALLED HOW A YOUNG "WILD" BRIGADE WORKED FOR 36 HOURS IN A ROW OUT IN THE COLD AUTUMN RAIN TO COMPLETE A BUILDING FOR THE GEOLOGISTS. THEN VIKTOR PETROVICH WANTED TO HELP SOMEBODY. NOW ALL HE WANTS IS MONEY AND FOR THIS HE IS READY TO MOBILIZE ALL THE CAPABILITIES OF A VERY GIFTED PERSON. AND MONEY, LIKE A MIRAGE, FLICKERS AND THEN DISAPPEARS FROM HIS HANDS. THE VASES SHOULD HAVE BEEN SOLD TO THE DISPENSARY WHOLE, ALONG WITH THE LEFTOVER MATERIAL THAT HAD AT ONE TIME BEEN STOLEN FROM THE KOLKHOZ AND NOT BEEN USED. NOW THE LEFTOVERS HAD BEEN USED. AS VIKTOR

PETROVICH ASSERTS, THEIR PRICE WAS NOT MUCH, BUT THIS DOES NOT CHANGE THE ESSENCE (NOT LEGAL, BUT MORAL) OF THE ACT. THEFT DID TAKE PLACE, OR RATHER--IT WAS COMMITTED. AND ALL THIS BEGAN--DO YOU REMEMBER?--WITH A DESIRE FOR HONEST EARNINGS. THE TRAVELING WORK CREW MEMBER COULD NOT KEEP HIS BALANCE ON THE PLATFORM....

I intended to return to the island. I saw here much of that traveling work that did not take much and what could earn good money by working 8 hours a day instead of 10-12. I wanted to take my family with me. But my wife did not want to go. I remained in the city.

I had to rest for a couple of months. I noticed that a seasonal rhythm had appeared in my life: several months of hard work (the "financial push") and then relaxation. During this time I would read and write a lot and return to my former creative ideas. This kind of order in my life seemed normal to me, although many people consider it reprehensible: for during the time while I was resting after being on the traveling work crews I never signed up for any other kind of work and it was almost as though I did not exist. We would live again on my wife's wages and my other money, as always, quickly disappeared. In the spring I would get a job as a truck driver in a vegetable store, and then a cafeteria assistant at a summer trade point. In the autumn I would be again without work. The first problems appeared in our family understanding. My wife was not very interested in my intellectual ideas and she would look at me questioningly, almost disturbed. I could "translate" her silent monologue easily. "Why do you not want to waste away your life day after day, year after year, in work that does not interest you, and yet I have to? Yes, I am the one who has to feed the family every day. Why do you not feel this duty? Do you give me a shoulder to lean on? You were looking for yourself.... But how long can this go on? Until you are 40? What will happen to us then?" She would get nervous when during those months of unemployment notices would come to our house reminding me that I had to pay child support. When would the letter come from the island reminding me of my 500-ruble debt, which I had no money to pay? When Kolya would come to stay with me for a couple of days, I would again think about going out and making money. I was glad to see him, in spite of our different positions: he was an exceptional individual and an interesting conversationalist. But Lida thought that he had a "semicriminal" appearance.... She was afraid. And, I knew, she wanted to leave.

Do not leave! I will straighten out. I will pay off all my debts. I will get three jobs. Many people do that. And I can. My main job will be in the scientific research institute. In the mornings, "on the way to the scientific research institute," I will work as a yardman: 2 hours of work and 70 rubles in my pocket. And after the scientific research institute I will work as a night guard: on the watch one can read, write and sleep a little bit. Another 70 rubles. Along with the 120-ruble institute salary, even subtracting child support, there will be a minimum for the family to live on. In the summer I will hire out to build dachas....

My plans would fall apart as soon as I would begin to look for work. There was no unemployment, but I...could not find a job. In the institutes they would be curious (a man!) but as soon as they looked at my labor book their tone would change. They were frightened by my varied biography, and the large

time periods between jobs. Even the custodian job for which I had already been hired was taken at the very last moment by a truck driver who had been demoted for drinking. They would not hire me as a night guard because of higher education. What could I do? I resorted to another violation of labor legislation. On the advice of my friends, I kept two labor books (I said that I had lost the first one and they issued me a duplicate which did not show my higher education). I began a second round of job hunting using this. They finally promised to hire me temporarily in the Institute of Physical Culture for a subject financed under an economic agreement. But that would not be until 2 months later. And promises are indefinite....

But why are they all afraid of my mobility and unorthodox lifestyle? How am I worse than those who have spent all their life behind one desk? What have they seen? The monotonous trivia of everyday life, the same old walls, the same path from work to home with a side trip to the store and, rarely, to the theater? Is this really what a full-blooded human life is supposed to be? What valuable recommendations can be suggested by social sciences associates who are sitting in scientific research institutes drawing knowledge about life only from monographs and questionnaires? How is it that they cannot understand that for a dynamically developing society, I am a necessary person--at any moment I can turn sharply and "start to live" from the beginning? How is it that they do not recognize that if they do not hire me they are again driving me to travel to distant places in search of work--now without any hopes of returning? It seems that I am becoming a person without any particular employment....

I avoid meetings with my relatives who are kind enough to try to teach me how to live. I had an argument with my mother-in-law on the phone. "What is the matter with you," she said, "have you gone out of your mind, not working yet? Why do you not go to the plant? They take anybody there." But do I really no longer have a right to choose? I still have some hopes and I still do not wish to take just any old job. The plant frightens me because of its rigid regimentation of its work, for I have become accustomed to freedom.

#### Do You Not Want To Ensure Yourselves Against Injustice?

JOURNALIST. VIKTOR PETROVICH GALCHENKO IS 38 YEARS OLD. HE IS ELEGANT AND HAS A GOOD APPEARANCE. HE SMILES ONLY RARELY AND FLEETINGLY. AND HIS GAZE IS VERY DIRECTLY CONCENTRATED. BUT HE IS NOT ONE OF THOSE PEOPLE WHO ARE ALL APPEARANCES; HE IS PREPARED TO BE OPEN IF HE FEELS YOU HAVE A DESIRE TO UNDERSTAND HIM, TO SEE A PERSON BEHIND THE NOT VERY FAVORABLE INDICATORS OF HIS LABOR BIOGRAPHY. HIS DEEP CANDOR MAKES IT IMPOSSIBLE FOR ME TO EVALUATE CERTAIN OF HIS ACTIONS HARSHLY AND IN A SIMPLISTIC WAY. BUT STILL I JUDGE HIM. I AM TRANSMITTING HIS CONFESSION PUBLICLY AND DRAWING FROM IT THE MORAL AND THE RATIONAL MEANING. I HAVE DELIBERATELY CHANGED HIS NAME BUT I AM REVEALING THE CAUSES OF THE ACTIONS. AND ALTHOUGH I AM DOING THIS WITH THE KNOWLEDGE AND AGREEMENT OF THE INDIVIDUAL WHO HAS BEEN SO OPEN WITH ME, THIS DOES NOT RELIEVE ME OF A FEELING OF GUILT. WHY AM I TAKING ON ALL THE SINS OF BETRAYAL? BECAUSE I CANNOT TAKE THIS SIDE--THE LIES OF A SUPERFICIAL, EVASIVE DESCRIPTION. AND I SEE NO OTHER PATH--PERHAPS BECAUSE OF MY SHORT-SIGHTEDNESS. BUT STILL, IF AFTER THIS ARTICLE THERE IS SOMEBODY ELSE FOR WHOM THE WORD "SHABASHNIK" NO LONGER SOUNDS LIKE A SIMPLE NEGATIVE CHARACTERISTIC

OF A PERSON, IF SOMEONE ELSE THINKS DEEPLY ABOUT THOSE SOCIOECONOMIC CONDITIONS WHICH FORM AND DEFORM THE MODERN WORK ON TRAVELING CREWS AND THE WORKER--THIS MEANS THAT MY TREACHERY WILL BE AT LEAST PARTIALLY JUSTIFIED IF NOT EXPIATED.

NEITHER OUR HERO'S UNUSUAL SOCIAL MOBILITY NOR THE MANY RISKY, ADVENTURISTIC UNDERTAKINGS, NOR THAT WHICH CAUSES THE UNIQUENESS OF HIS LIFESTYLE SEEM TO ME TO BE MANIFESTATIONS OF AN IRREVERSIBLE DEFORMATION OF THE PERSONALITY. REGARDLESS OF WHAT HAPPENED, HE WENT THROUGH LIFE'S DIFFICULT UNIVERSITIES AND THIS SHOULD PROBABLY HELP HIM IN THE SCHOLARLY CREATIVITY WHICH HE HAS NOT ABANDONED, EVEN THOUGH THEY WILL NO LONGER HIRE HIM IN SCIENTIFIC RESEARCH INSTITUTES.

MY HOPES ALTERNATE WITH ALARM WHEN VIKTOR PETROVICH SHARES HIS OWN IDEAS WITH ME.

IMPRESSED AT ONE TIME BY KARL MARX'S THESIS THAT DEFINES ALL ACTIVITY AS VALUE, HE WAS LED TO PARADOXICAL IDEAS ABOUT SOCIAL JUSTICE. AND ABOUT WAYS OF ACHIEVING IT. ALL OF TODAY'S ATTEMPTS TO ESTABLISH "A BALANCE OF JUSTICE" IN THE COLLECTIVES USING COEFFICIENTS OF LABOR PARTICIPATION, QUALITY AND OTHERS DO NOT COMPLETELY SATISFY VIKTOR PETROVICH. HE ASSERTS THAT IT IS NOT ENOUGH TO EVALUATE WORK ALONE (FOR A PERSON CAN BE ENGAGED IN SOMETHING THAT IS HIGHER OR LOWER THAN HIS CAPABILITIES). IT IS NECESSARY TO "COMPREHENSIVELY MEASURE EACH INDIVIDUAL." NOT WITH TESTS. BUT MORE PRECISELY, MORE DEEPLY. SEVERAL YEARS AGO VIKTOR PETROVICH EVEN THOUGHT THAT IT WAS NECESSARY TO LEARN "TO MEASURE MORALITY SCIENTIFICALLY." HE DID NOT FIND THE INSTRUMENTS. HAVING STATED THAT "THE SOUL IS DARKNESS," HE DECIDED FIRST OF ALL TO FIND CRITERIA FOR MEASURING ACTIONS. HE RECALLS THE CLASSICAL ASSERTION THAT THE MEASURE OF SOCIAL WEALTH IS FREE TIME. "FREE TIME CAN ALSO BE ONE OF THE CRITERIA FOR MEASURING THE INDIVIDUAL. ONE MUST SEE IF HE SIMPLY RESTS DURING THESE HOURS, CONSUMING THE VALUES CREATED IN OTHER HOURS, OR IF HE HIMSELF CREATES SOMETHING SOCIALLY SIGNIFICANT." "AND TO CALCULATE SOMETHING LIKE A COEFFICIENT OF DEVELOPMENT OR SOCIAL USEFULNESS?"--I HAZARDED A GUESS. VIKTOR PETROVICH NODDED. BUT HE WARNED THAT THE IDEA IS "CRUDE." AND PERHAPS THIS IS NOT WHERE ONE SHOULD LOOK FOR CRITERIA WHICH WILL HELP US TO LEARN WHAT REALLY EACH INDIVIDUAL IS. SO AS TO GIVE HIM JUSTICE. FOR ALL HIS CAPABILITIES, MERITS AND VICES.

"HOW SHALL HE BE GIVEN HIS DUE? WITH WAGES? POSITION? WHY IS IT THIS WAY WITH A PERSON?..." I RESPOND, NOT UNDERSTANDING, AND FRIGHTENED BY THE STILL HYPOTHETICAL CONTROL OVER MY FREE TIME AND THEN, PERHAPS, OVER MUCH ELSE. I CANNOT RECOVER FROM THE SHOCK CAUSED BY THE COLD-BLOODED THOUGHTS OF A PERSON WHO AT ONE TIME WITH COEFFICIENTS AND MEASUREMENTS FELT JUSTICE, FELT SORRY FOR THE WEAK, AND PROTESTED AGAINST PETTY CONTROL...

VIKTOR PETROVICH SMILED FLEETINGLY AND ALMOST CONDESCENDINGLY. MY INSTINCTIVE RESISTANCE DOES NOT SURPRISE HIM. I AM NOT THE FIRST ONE.... ON THE RECOMMENDATION OF A WELL-KNOWN SCHOLAR WHO IS INTERESTED IN HIS RESEARCH, HE BROUGHT TO THE INSTITUTE OF PHILOSOPHY HIS NOTES ON HOW IT WOULD BE POSSIBLE TO APPLY TO TODAY'S LIFE MARX'S THESIS DEFINING ACTIVITY AS VALUE.

"BUT, AFTER ALL, NOBODY CAN DEFINE PRECISELY WHAT THIS VALUE MEANS. SO FAR IT IS ONLY EMBODIED IN THE RESULT...," THE INSTITUTE ASSOCIATE EXPRESSED HIS DOUBTS.

"OF COURSE! FOR PART OF THE VALUE IS IN THE PERSON HIMSELF," VIKTOR PETROVICH AGREED. "THEREFORE IT IS NECESSARY TO MEASURE THE INDIVIDUAL."

"AND WHO WILL DO THE MEASURING? THE DIVISION OF LABOR AND WAGES? OR...HMM... THE POLICE?"

"YOU ARE SIMPLY AFRAID OF AN INADEQUATE EVALUATION. BUT IT IS NECESSARY TO FIND CRITERIA WHEREBY THE EVALUATION WILL BE ADEQUATE."

VIKTOR PETROVICH REPEATED THE SAME THING TO ME. HE ADDED:  
"IN THE FINAL ANALYSIS, THIS IS NECESSARY IN ORDER TO STIMULATE DEVELOPMENT."

"DEVELOPMENT CAN PROCEED IN SPITE OF STIMULATION!" I DISAGREED. "MAN SOMETIMES WANTS TO ENGAGE IN SOMETHING OTHER THAN THAT WHICH PAYS THE MOST. YOU ARE CONTINUING YOUR RESEARCH, ALTHOUGH THEY ARE NOT PAYING YOU FOR IT."

"ONLY CERTAIN PEOPLE ARE CAPABLE OF THIS KIND OF DEVELOPMENT. BUT FOR THE MASSES...PEOPLE ARE NOW TALKING A LOT ABOUT CONTROLLING SOCIAL PROCESSES. THIS IDEA IS A BLIND ALLEY, OR ELSE IT IS NECESSARY TO LOOK FOR STIMULI WITHOUT WHICH CONTROL IS IMPOSSIBLE. THIS MEANS ONE MUST MEASURE THE PERSONALITY. ONE CANNOT GET AWAY FROM THIS."

HIS VOICE SHOWS SUCH CONVICTION.... ONE RECALLS SALIERI WHEN HE WAS TRYING TO VERIFY HARMONY WITH ALGEBRA (AS MANY OF HIS FOLLOWERS ARE STILL DOING)--FOR I KNOW THAT VIKTOR PETROVICH IS NOT ALONE, HIS THINKING IS IN THE DIRECTION OF A WIDESPREAD ATTRACTION TO "COEFFICIENCY," ONLY IT RISES A LITTLE HIGHER.). ONE HAS AN IMAGE OF A SUPERMAN, A BLOND ROGUE, DIRECTING THE DEVELOPMENT OF THE MASSES OF PEOPLE. AFTER ONE OF THESE CONVERSATIONS I WROTE ON MY NOTE PAD: "WILL HE LEAVE US ANYTHING THAT IS WITHOUT VALUE OR IRRELEVANT?"

NO, I DO NOT FEAR INADEQUATE EVALUATION. I DO NOT WANT ANYBODY TO SEE ALL THE WAY THROUGH ME, TO WEIGH ALL MY APPARENT AND CONCEALED SHORTCOMINGS AND MERITS. I AM AGAINST SUCH AN UNCEREMONEYOUSLY PRACTICAL INTRUSION INTO MY LIFE. I FEEL THAT A MEASUREMENT THAT IS TOO PRECISE AND CONCRETE, A PREPARATION, AN EVALUATION OF NOBLE ACTS AND HIGH SPIRITUAL QUALITIES, WILL DENIGRATE AND DEVALUE THEM. "COMPREHENSIVE MEASUREMENT OF THE INDIVIDUAL" CAN DESTROY THE SOUL. THAT VERY SOUL WHOSE EXISTENCE WE CONSISTENT MATERIALISTS DENY BUT TO WHICH WE FREQUENTLY APPEAL.... I SAID TO VIKTOR PETROVICH THAT I WOULD PREFER TO REMAIN UNEVALUATED.

"BUT I DO NOT WANT TO!" THE MAN SHOUTED PASSIONATELY, THE SAME MAN WHO AT ONE TIME WAS TOO SHY TO DEMAND THE RAISE THAT WAS DUE TO HIM. "I DO NOT WANT TO REMAIN UNDERRATED!"

THIS IS THE MOTIVE FORCE OF HIS INTELLECTUAL SEARCHES.... HE IS NEITHER THE FIRST NOR THE LAST TO BEGIN TO SEARCH FOR JUSTICE AFTER HE HIMSELF HAS BEEN WOUNDED BY INJUSTICE. HAVING BECOME CONVINCED THAT THERE IS NO GUARANTEED JUSTICE IN SOCIETY, HE WANTS TO CREATE IT. THE SYSTEM, WHICH WOULD WORK

AUTOMATICALLY, DISTRIBUTING PEOPLE IN THEIR PLACES ACCORDING TO THEIR CAPABILITIES, UNERRINGLY PUNISHING AND REWARDING THEM. SO WORTHY PEOPLE WOULD NOT HAVE TO SUFFER OR UNDERGO DEFEAT AND DEGRADATION. BUT WOULD THEY BE ANY HAPPIER UNDER A SYSTEM OF AUTOMATIC JUSTICE? IN VIKTOR PETROVICH'S RESEARCH I SEE AN UNCONSCIOUS DESIRE TO SIMPLIFY LIFE, TO BRING IT IN LINE WITH THE SCHEMA OF SOCIAL OPTIMISM WHICH I MENTIONED ABOVE AND WHICH HAS DUG SUCH DEEP ROOTS IN OUR AWARENESS, INTERTWINING SO STRONGLY WITH UNREALIZED DREAMS AND DISENCHANTMENTS, WITH THE TRAVELING WORK CREWS WHO ARE DESPAIRING, BALANCING ON AND BREAKING THROUGH "THE BOUNDARIES."

IN THE INTERVALS BETWEEN OUR CONVERSATIONS AND HIS SEARCHING FOR WORK, VIKTOR PETROVICH VISITS HIS ONLY SON. HIS SON WAS BORN IN THE SIXTH YEAR OF HIS FIRST MARRIAGE. THEY DID NOT HAVE CHILDREN SOONER BECAUSE THE PARENTS WANTED FIRST TO COMPLETE THE VUZ AND THEN TO STRENGTHEN THEIR MATERIAL BASE.... ALMOST SINCE HE WAS A BABY THE BOY HAS BEEN SERIOUSLY ILL. THEY HAVE TAKEN HIM TO HEALTH RESORTS, ARRANGED FOR EXPENSIVE THERAPY, BUT HIS SITUATION HAS NOT IMPROVED, AND HE ENDS UP IN THE HOSPITAL THREE OR FOUR TIMES A YEAR. THE PHYSICIANS HOPE THAT HE WILL "OUTGROW" THIS. I THINK: HOW CAN FAIRLY EVALUATE SUCH AN INDIVIDUAL--AFTER ALL, HE POSSIBLY WILL NOT BE ABLE TO WORK IN THE FUTURE WITH HIGH PRODUCTIVITY OR SPEND HIS FREE TIME IN A SOCIALLY USEFUL WAY SINCE A LARGE PART OF IT WILL BE TAKEN UP BY HIS ILLNESS. WHO WILL BE HELD RESPONSIBLE AND HOW WILL HE BE REIMBURSED FOR HIS SUFFERING, FOR WHICH EVERYONE IS TO BLAME--AND NOBODY IS TO BLAME? WHAT COEFFICIENT CAN BE USED TO MEASURE THIS MEAGER LIFE WHICH HAS ITS OWN, ILLOGICAL HAPPINESS, ITS OWN HEIGHTS AND DEPTHS--MEETINGS WITH A "WANDERING" FATHER, BOOKS AND THOUGHTS ABOUT LIFE IN THE SMALL AND FANCIFUL COUNTRY OF INSECTS WHICH HE DESCRIBES IN NOTEBOOKS AND GIVES TO HIS FATHER TO READ....

VIKTOR PETROVICH HAD JUST RETURNED FROM THE HOSPITAL AND WE MET FOR THE LAST TIME. HIS SON WAS DOING POORLY THAT DAY. AND AT THAT MOMENT VIKTOR PETROVICH DID NOT NEED ANYTHING--NEITHER CREATIVITY, NOR MONEY, NOR LARGE-SCALE JUSTICE....

SOME TIME LATER I CALLED HIM ON THE TELEPHONE. THEY HAD STILL NOT HIRED HIM AT A SCIENTIFIC INSTITUTE. AND HE IS NOT YET WORKING AT THREE JOBS. HE WAS RECLASSIFIED TO BE A STATE INSURANCE AGENCY. HE INSURES HOUSEHOLD PROPERTY AND THE LIVES OF CITIZENS FROM THE TURNS OF DESTINY. AND IN HIS FREE TIME HE CONTINUES TO LOOK FOR ADEQUATE CRITERIA TO MEASURE THE INDIVIDUAL AND INSURE HIM AGAINST INJUSTICE AND ALSO STIMULATE THE DEVELOPMENT OF THE MASSES. I AM CONVINCED THAT THERE CAN BE NO SUCH CRITERION AND THAT SOCIAL ALCHEMY HOLDS NO PROMISE. BUT HE IS SEARCHING SO PERSISTENTLY.... AND IN MY HEART I FEEL COMPASSION FOR HIS FATE, RESPECT FOR HIS PERSISTENCE AND I FIGHT AGAINST MY FEAR. WILL HE SUDDENLY FIND WHAT HE IS LOOKING FOR? OR WILL HE BELIEVE THAT HE HAS FOUND IT AND CONVINCE OTHERS?...

#### FOOTNOTES

1. Marx, K. and Engels, F., "Sochineniya" [Works], Vol 46, part I, p 100, Politizdat, Moscow, 1968.
2. "How Traveling Work Crew Members Were Studied," IZVESTIYA, 14 February 1986.
3. Ibid.

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## RELATIONSHIP BETWEEN WORK AND ART EXAMINED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 137-148

[Article by B. Yu. Kagarlitskiy (Moscow): "Between the Shop and the Stage"]

[Text] Life does not stand still. Each new period in the country's development gives rise to new opportunities, but at the same time there are also new problems and new controversies. What seemed unquestionable and obvious yesterday is subject to doubt today and subjects that recently were occasions for heated arguments may seem boring and insignificant tomorrow. As society changes so also does art, which in our country has become a kind of barometer of public interest in one problem or another. It is quite clear, therefore, that many theatrical productions have interested us with more than just their artistic merits and shortcomings. They have ended up in the center of a sharp controversy, causing both critics and readers or viewers to take a particular position. The questions they have raised have gone far beyond the usual framework of art.

If one looks at the evolution of Soviet "industrial drama" from this standpoint one can easily observe that the changes that have taken place in the theater have reflected in their own way the changes in public awareness and the changing approach to economic problems.

The establishment of the "industrial" theme in our literature goes back to the end of the 1920's and beginning of the 1930's. This was the time of the first five-year plans, the age of large construction projects when entire branches of industry were growing up literally before people's eyes. "Industrial" plays of those years typically lean in the direction of documentaries. The authors were attracted by the real events which, because of their scale, seemed greater than any imaginary plot or dream. Nikolay Pogodin created his plays "Tempo" (1928-1929), "A Poem About an Ax" (1930) and "My Friend" (1932), using as a basis his own newspaper reporting. The heroes of the stage were inseparable from the living real people and their confidence in themselves and their work, their hopes and strivings were authentic and sincere. Pogodin wrote the play "Tempo" about the construction of the Stalingrad Tractor Plant, and in "My Friend" he presented under the names of the director Gay and the manager the well-known artist Zaltsman and Sergo Ordzhonikidze.

But by the 1940's a certain canon of the "production drama" had taken form. The plays were written according to an established model and what had been life yesterday, transferred to the stage, was gradually transformed into a lifeless idea. Real human relations were replaced by a "conflict between the good and the best." The authors of the beginning of the 1930's were concerned not so much about improving the artistic form of their works as about their effectiveness as public statements. As long as the theater was directly linked to real events, it was successful. In the 1940's the mark of the public statement had already crowded reality into the background. The commentary, severed from daily life and subordinate to general, previously given schemas, simply stopped working. By the 1950's the term "production play" was linked in the minds of the readers with something incredibly boring, artificial and remote from real problems.

The changes taking place in our literature and theater since the middle of the 1950's have been reflected not so much in the renewal of the "production" genre as in its being consigned to oblivion. The moral strivings of the heroes have come to the foreground. During this period great success was enjoyed by the plays of V. Rozov that were devoted to young people who were rising up against stagnation and philistinism. The action took place mainly in the family circle or in a communal apartment where several families were supposed to coexist in one way or another. The dramatists emphasized that these are what interest a person, and not the production function or personality, and not the bearer of abstract principles either.

The interest in production conflicts does not begin to awaken until the second half of the 1960's, to a significant degree because of the economic reform that was being conducted at that time. The brilliantly written books and sketches of the economists G. Lisichkin, A. Birman, P. Volin, and other authors made problems of the reform comprehensible and attractive for the average reader who previously had a fairly abstract idea of the operation of the economic mechanism. It was precisely this kind of economic commentary, which became a fact of culture in the broadest sense, that showed that the "production theme" deserves the serious attention of writers. But, incidentally, this did not mean a rejection of moral strivings. On the contrary, this meant a deepening of them. For the human personality is manifested in the work to a significant degree. It is impossible to divide a person from his work, and it is also unnecessary.

The success of economic commentary at the end of the 1960's was related to the fact that it was able to show economic life not as frozen, but as mobile and changing, raising complicated problems before all participants in the production process. The reader understood that the reasons for the problems that arise cannot be reduced to objective factors, that accounting for hectares and quintals and rubles should not stand in the way of the main thing --the analysis of human relations. As a result, the moral side of economic problems was revealed to us.

Nonetheless, the revival of the "production theme" did not begin until the 1970's, when on the pages of literary journals and the stages of theaters and then also on the movie screens there appeared a whole string of "business

people." But it is important to understand it is precisely during those years that this social type interested playwrights, writers and directors so much.

The economic reform of 1965 was accompanied by wide-ranging theoretical discussion. Many ideas were realized, but there were also many that were not embodied in life. It is no accident that the large-scale economic experiment of the 1980's, by general consensus, is based to a significant degree on ideas expressed as early as the period of the economic reform and the theoretical baggage of the 1960's continued to be used by economists for the next 2 decades. The disputes over the prospects of restructuring management were very sharp, even after the discussions of the reform had died down in and of themselves. Perhaps the disputes became even sharper. At the same time the economic mechanism, adjusted by the form, was clearly in need of further improvement, and the society and economy continued to develop, placing new problems in the foreground and at the same time creating new possibilities that could not be utilized without rejecting traditional methods.

Literary figures who had become acquainted with economic problems during the years of the reform, in turn, sought answers to the issues that have been troubling everyone. It was important to find and to present a positive hero who could provide for progress in the new direction of development. It was precisely because of this that the entire gallery of "business people" appeared on the stage and screen (less frequently in prose).

It began, perhaps, with Cheshkov in the "Man From the Outside," by I. Dvoretskiy (1972). I shall not discuss this play, which became the occasion for numerous disputes including on the pages of EKO. One should, however, draw attention to the fact that this hero immediately acquired a large number of doubles. Suffice it to recall those which appeared in 1973 alone: "All day long" by A. Veytsler and A. Misharin, "On His Own Road" by R. Ibragimbekov and even the musical "Highway 21" by M. Zakharov and Yu. Vizbor. These plays had different destinies, and also different artistic levels, but the very persistence with which the playwrights returned to the same theme revealed a good deal.

Dvoretskiy's play had so many imitators because it expressed a certain social attitude. The critic L. Annenskiy wrote that this concerned a new hero who it appeared not only on the stage, but also in life. He was the "techno-intellectual," inflexible, rigid, competent, full of energy and occupied only by his work. The future belongs to this type: "Whether We Like It or Not--Cheshkov Is Coming" (TEATR, No 2, 1972, p 39).

One can say that for the new hero technology is above everything else. The objective production needs determine the only correct approach to people and dictate the need for restructuring all personal relations. This is precisely the approach to work that provides for solving all the crucial problems.

This view is embodied most fully, perhaps, in the play by M. Shatrov, "The Weather for Tomorrow" (1974). Continuing the tradition of the documentary "production drama" that goes back to Pogodin, Shatrov used as a basis for his play the events taking place at the Volga Automotive Plant. Shatrov's play is openly commentarial, and he does not try to conceal its connection to real

people and conflicts. It is about the first period of the operation of the VAZ when production had already been started but it was necessary to solve numerous new problems while on the move.

The heroes are intelligent, energetic, "techno-intellectuals" who are devoted to their work. The author and his heroes are excited about the possibilities of modern technology. This technology in and of itself forces people to rearrange their lives, it dictates its own rules, and it makes it impossible to work "in the old way." When reading over Shatrov's play now, 10 years later, one cannot but stop and think. For it is about the conveyor technology of the 1970's. Today we have computers, robots and automated lines. And yet many problems of the past decade still have to be solved. Much of what is said about Shatrov's heroes seems important and crucial now as well. But this only increases the doubt of the correctness of the basic idea of the play. Shatrov believed that the VAZ and other new enterprises dictate to the economy the "weather for tomorrow." Everything else must be rearranged in order to keep up with it. But in fact it has not been so simple to achieve the changes. In the middle of the 1980's the VAZ leadership still blames problems on the fact that associated enterprises are not meeting its requirements, cannot provide the necessary quality of products, and are working in a different rhythm. Thus VAZ itself, not being updated at the proper rate, is doomed to lag behind the world level.

What is the matter? Where was the mistake made by the author and the heroes? One cannot but agree with the idea that the updating of technology requires changes in the economic mechanism. But now it has become clear that the correspondence between the productive forces and the production relations cannot be provided automatically. For production relations are also relations among people. The authors of the 1970's were not simply mistaken in believing in the omnipotence of technology. They ignored the possibilities inherent in art when analyzing the production problems. For the question of the meeting of technological progress cannot be fully resolved by ordinary sociology. The force of art lies in its ability to penetrate deep into human relations and psychological contradictions.

A small digression is necessary here. One cannot simply announce that one writer or another has dealt poorly with the economic situation, underestimated the "human factor," overestimated the role of technology, and so forth. We are speaking about more substantial illusions that were widespread in public awareness in the 1970's. First of all, it turned out to be wrong to hope for a gradual, smooth changeover from the old to the new. Of course for the majority of authors of the "production drama" it was clear that this changeover was fraught with numerous conflicts, but there was no understanding of the need for a qualitative change, an interruption in the gradual continuity, and not only evolutionary, but also revolutionary strides. An understanding of the fact that "breakthroughs" of local significance cannot replace a radical restructuring throughout the entire front was reached with difficulty.

Clearly, the development of a comprehensive plan for economic reforms is a matter for specialists and not writers. But still the writer cannot stand to the side. His problem is simply formulated differently. He must answer the

question of what type of individual and what position in life correspond to the new scale of problems.

It is precisely here that one discovers the weak spot of the "production drama" of the beginning of the 1970's. In order to provide for qualitative progress in the economy and social life, it turns out that it was necessary to have a creative individual who was capable of embracing economic problems in all their many levels, without being limited to purely technological issues. The main thing was that it was necessary to have people capable of unusual actions, unexpected discoveries and nontraditional solutions.

The rigid "techno-intellectual," relying completely on the requirements of production and subordinating himself and others to the logic of technology, gradually lost his initial attractiveness. The further we went, the more we discovered his weak sides. At first the writers hoped to soften the "business person," to make him more human and more versatile. Then came the play by A. Grevnev, "From the Life of a Businesswoman" (1973). Depicting a woman director, the author tried to achieve a compromise between the principled attitude toward business and human nature. The female sensitivity was to have softened technological discipline. Anna Georgiyevna in Grevnev's play tried to combine what was useful and old with what was necessary and new, what was good with what was hard. But compromise is rarely a basis for authentic and profound renewal. While smoothing out the rough edges, Grevnev's play did not solve the problem. On the contrary, it showed that there was some doubt about the correctness of the initial "technocratic" approach.

A qualitatively new level was reached, obviously, with the appearance on the stages of the plays by A. Gelman, "The Minutes From One Meeting" (1975) and "Feedback" (1977). In Gelman's plays the "techno-intellectual" is seen in an entirely different light. Embittered and authoritarian but deprived of power, commanding people who sometimes earn more than he does, he is completely unable to offer anything new. While devoted to his work he has no idea about the social significance or meaning of his activity. He is resolute, energetic and in his own way convinced, but he has no clear understanding of the prospects for the development of the economy and the society. This is a maximalist without ideals, an idealist without ideas.

This character has moved into the background, but his presence is reflected throughout the entire course of the action. His mechanical thinking itself is an obstacle to change. The people against whom the brigade leader Potapov struggles in "Minutes of One Meeting" are also concerned about production, they are also "passionately involved in their work" and they are undoubtedly competent, but all this is clearly not enough to change life.

There was a time when it seemed that if each person would simply begin to work conscientiously and energetically in his own place everything would take care of itself. All that was necessary was to have more honorable workers, competent managers and intelligent specialists. But in fact this was still not enough for a significant qualitative change in the economy. We have always had many superior, meticulous, devoted and creative workers in the most varied branches and specialties. And they have all done all they could. The

most important issue was to go beyond their usual capabilities and to do something that had been considered impossible in the past.

In Gelman's play, "We the Undersigned" (1979) the state commission that accepted a construction project was headed by a person who was extremely honorable, firm and professional. But the very role assigned to the commission in intradepartmental bureaucratic intrigues turns out to be unseemly. During the course of the business it turns out that in certain circumstances there was clearly not enough simple orderliness. An honorable person can be manipulated. Sometimes a conscientious worker turns out to be a necessary and very convenient cover for a system of relations in which human labor is expended in vain and bureaucratic accountability replaces real work. In other words, frequently the imperfect relations among people are explained by the imperfection of individual people, and the "positive example" of a good person is called upon to replace the search for a realistic way out of the situation that has developed.

If the economists were to be convinced of the limitedness of the possibilities of purely organizational improvement and come to the conclusion that it is necessary to learn to use principally new methods of management, the writer had to refrain from technocratic illusions.

Why, actually, is it the "businessman" who must necessarily become the main character? Why is he the only one in whom hopes can be placed? Is there really nobody else who can take the initiative?

In Gelman's plays the approach changes decisively. The heroes of his works occupy various social positions and their duties and responsibilities are not all the same--they are engineers, workers, secretaries of city party committees. But they all have one thing in common--the ability to personally speak out against outdated rules, a rebellious spirit and the readiness to defend their moral principles regardless of specific production circumstances. A departure from these principles means a personal catastrophe.

It is not a matter of the style of management the "businessperson" selects for himself and not the position he takes. The main thing is to be able to go against the current. And if he does not have enough courage for this the success can turn into a great moral defeat.

In the comedy by A. Kozlovskiy, "The Redkin Effect," the hero turns out to be an eccentric but talented inventor who naively tries by himself to force his way through the bureaucratic barriers. And even the behavior of Gelman's heroes (at least those who arouse the sympathy of the author and spectators) can sometimes be called nothing but quixotic. Zinulya in the play by the same name declared that she will not budge until they admit she is right. At first glance it seems absurd, like the desire of Potapov's brigade in "Minutes of One Meeting" to refuse a bonus and the attempts of Lenka Shindin from the play, "We the Undersigned," to make sure at any price that the commission signs a document for accepting the objective although it was known ahead of time that the commission had been sent there especially so that it would not sign anything, but providing justification for removing from his post a manager who was making trouble for someone. At first the other people simply

could not take these quixotic actions seriously. For people who have decided upon such actions cause harm primarily to themselves and the probability of success from the standpoint of common sense is zero. But for Zinulya or Potapov it is important not only to achieve a certain concrete result (like the "businesspeople" in the literature of the 1970's) but to establish certain principles, to draw attention to their actions, and to prove that it is possible to live in a different way!

The rearrangement begins with a moral renewal. But in and of themselves moral principles must be embodied in life in one way or another. In this respect the concrete result is as important as it was before. Perhaps it is even more important for, in addition to the production significance, it also acquires a moral significance.

This issue remains at the center of "Silver Wedding" by A. Misharin and the play "Speak" by A. Buravskiy. The latter play is especially interesting. The events in it occur in the past, in the 1950's, but in this case the past provides an important lesson for the present. Buravskiy's heroes--a writer and a raykom secretary--try to improve a rayon which is in a difficult situation. Coming up against numerous difficulties they understand that it is impossible to introduce innovations by orders. The best wishes remain unrealized if the people themselves do not consent, if each one does not recognize that it is his right and duty to defend the truth.

Obviously, a combination of businesslike resolve and moral uncompromisingness along with a rejection of old rules should become the ideal--not only for literary characters. It is clear that "business people" must acquire a more sensitive moral (and not only production-technological) program and idealists should become more practical.

This is far from being a utopia. The difference between being a competent realist and a quixotic dreamer in life is not as great as it usually seems. Many projects that have been realized have scenes like empty dreams at first, while realistically substantiated plans have suffered defeat. The belief in the omnipotence of technology, which frequently inspired playwrights of the 1970's to create "production" plays, certainly did not appear out of the blue, but it was naive, while moral principles were making their way through in spite of any obstacles.

But still the question of the positive hero remains unresolved to a considerable degree. And it is perhaps not only a matter of creative successes and failures of individual writers.

People change, and they manifest their hidden capabilities as situations change. Apparently the positive hero--both in real life and on the stage--can take form only in the very process of change. New prospects for development help to develop new demands, interests and tasks. It is necessary to be aware of these tasks and interests and to learn to defend them successfully.

The large changes that began in our country after the April (1985) Plenum of the CPSU Central Committee and the 27th Party Congress in one way or another affect each and every one of us. We cannot but see that they open up new

possibilities for all people involved in skilled labor. It is precisely the world of skilled labor that is in the vanguard of technical progress and it is the one that is especially critically in need of changes. This world is diverse but it is joined together by a common need to overcome bureaucratism, inefficiency, and outdated forms of economic organization, without which skilled labor in the modern stage cannot develop successfully in any one of its forms.

The restructuring that is taking place will not simply help people involved in skilled labor to acquire faith in themselves, it creates possibilities for the establishment of a new production-creative self-awareness and provides an impetus for accelerated development of social segments that are involved with advanced forms of production. The structural changes should reinforce the moral renewal.

It is naive to think that all factors impeding progress will disappear of their own accord. It is not an easy thing to overcome bureaucratism and stagnation. But in the process of changes, when encountering difficulties and conflicts, our positive hero is able to formulate his principles completely and clearly and to demonstrate his forces. The new situation gives rise to new prospects and this, in turn, provides for further progress both in the organization of production and in the behavior and thinking of people.

For skilled labor the orientation toward quantity, toward the "gross output," toward an abstract indicator is frankly absurd and provides no incentive. Respect for their own work and, in the final analysis, for their own personality is possible only when people are capable of realizing their creative potential. This is precisely the world that will create the positive hero of tomorrow, no--even of today.

Of course, no one has a monopoly on moral renewal, and it should affect all social segments. But it is precisely here, in the world of skilled labor, that this renewal will undoubtedly produce the most rapid and the richest social results. And this means that in literature as well there will be new heroes, new plots, about which we will be able to argue no less heatedly than we did about the image of the "businessperson" at the beginning of the 1970's.

Our art has always sought for answers to questions related to real life. Today, however, it is necessary for life itself to provide a new impetus to the art, giving rise to new themes, characters and situations. The richer and the greater the content of our reality, the greater will be the possibilities of our art as well.

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## LEASING EASES EQUIPMENT PROBLEM IN CAPITALIST COUNTRIES

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[Article by I. M. Sheyman, candidate of economic sciences, Institute of World Economics and International Relations of the USSR Academy of Sciences (Moscow): "To Purchase or To Lease?"]

[Text] During the past 10-15 years in the leading capitalist countries the importance of machine and equipment leasing has increased sharply. This form of business relations has become firmly ingrained in economic practice as an instrument for selling products and at the same time as an important channel for the investment process. And though much in the leasing policy has been generated by purely speculative and competitive aspects that reflect specifically the capitalist approach, nonetheless it is of certain interest for practitioners of socialist management as well. Today leasing relations are utilized extensively in our country in the petroleum and gas industry where most of the drilling and pumping equipment are on the books of organizations that lease this equipment out. In other forms elements of leasing are used in operating agricultural equipment.

### A New Form of Economic Relations

The rental of means of production, or leasing, is an economic transaction that gives the enterprise the right to use instruments not belonging to it for a particularly period of time in return for lease payments that are made periodically. The main subjects of this transaction are the lessor and the lessee (the consumer of the technical equipment) and a licensing intermediary in the form of a financial and credit institution or a specialized firm.

The objects of leasing operations are the most varied kinds of machines and equipment, beginning with primitive dishwashers and ending with complex and costly machine tools, computers, railroad and power equipment, ships and aircraft. They lease entire sets of equipment for reequipping shops or even enterprises, information systems and so forth. Most frequently under these conditions they acquire standard kinds of equipment that are intended for satisfying mass homogeneous needs, and also products with the most rapid rates of obsolescence.

Capitalist enterprises resort to leasing, in the first place, out of financial considerations, having in mind drawing upon capital from outside sources and, second, in order to solve production problems that arise by means of temporary utilization rather than acquisition of equipment as property. Correspondingly, leasing performs two major national economic functions: credit and satisfaction of current production needs of the clients.

The first function is performed to the greatest degree by the so-called financial leasing. This is the commitment of the parties for a long period, usually encompassing the entire service life of the equipment. In this case the leasing contract envisions complete payment by the lessee of the consumed value of the leased equipment and the transfer to it of all commitments for owning the property. In essence, this is credit in the form of functioning capital. Its objects are the most costly kinds of machines and equipment. Most of the financial leasing (up to 85 percent in the United States) is linked to attracting capital from third parties for financing transactions (this leasing is called separate).

The most interesting kind of leasing in practical terms is operational leasing, that is, the lease is concluded for a short period of time--from several months to 3-5 years. The major aspect of this operation is the service of production through granting for temporary use the most marketable and quickly updated kinds of equipment. The distinguishing characteristics of operational leasing consist in that, in the first place, it does not presuppose complete reimbursement for the value of the leased equipment, and, second, it places on the lessor all the responsibility for the functioning of the means of production (as will be shown below, this circumstance makes leasing especially attractive). (Footnote 1)

The scale of leasing in capitalist countries is growing rapidly. In the United States, as one can see from the table, the sum of leasing contracts concluded in 1984 amounted to \$67 billion or 24.4 percent of the overall volume of capital investments in machines and equipment. That is, every fourth dollar invested in expansion and modernization of the production apparatus is spent not for acquisition of technical equipment as property, but for its temporary utilization. As early as the 1970's this proportion was appreciably less.

Table--Volumes of Leasing of Machines and Equipment in the United States  
(not including car rentals by private citizens)

	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Total contracts concluded (billions of dollars)	26.5	43.5	57.6	61.2	67.0
Share in overall volume of investments in machines and equipment (%)	15.6	22.0	27.8	27.4	24.4

Leasing is utilized not only by small and medium-sized firms that are experiencing difficulties with financing investments, but also large

corporations that have immense resources. In the United States, for example, 80 percent of the firms regularly lease various kinds of technical equipment. Most of them are companies that are included in the "100 Club"--the elite of American monopolistic capital.

Passing through the channels of leasing operations in the United States are 45 percent of the capital investments in air transportation, 35 percent--in rail transportation, 31 percent--in automotive transportation, 23 percent--in maritime transportation, 15 percent--in electronics computer equipment, and a considerable proportion of the office, medical and sales equipment. The main consumers of leased equipment are enterprises of the processing industry, transportation and trade. During past years, in searching for sources of savings, state institutions have resorted to leasing, including schools and hospitals: in 1982 local authorities rented \$1.5 billion worth of equipment (in 1980--\$700 million). To some degree this was a necessary step that is related to the shortage of funds for the development of social programs that was aggravated under the Reagan administration.

Licensing operations are being assimilated at rapid rates in other capitalist countries as well. In England, for example, their volume in 1983 had increased by 20.6 percent and in 1984--by 39 percent (in current prices). To some extent this is a competitive phenomenon that is related to the circumstances that will be considered below, but in the longer range one can trace a stable tendency toward accelerated growth of this form of investment as compared to the acquisition of equipment as property. The proportion of leasing in the overall value of capital investments in active elements of the production apparatus is approaching 20 percent. A real boom in licensing operations has been experienced in recent years in Japan: the annual increase is 25-30 percent, and for certain kinds of science-intensive, highly technical products, it is even more. (Footnote 2)

Leasing operations are actively included in the sphere of international economic relations. The leaders here are the transnational corporations of the United States. Throughout the year they lease abroad American equipment valued at about \$10 billion. At the same time they are expanding the network of leasing branches in other countries in order to conduct operations with local technical equipment. For large industrial capital leasing is becoming a more and more important means of market expansion and suppression of competitors.

In the complex of factors that have determined the expansion of leasing a special role is played by scientific and technical progress. The new stage of it which began in the 1980's was marked by an appreciable acceleration of the updating of production apparatus and products that are produced. According to predictions, in 1986 one-third of the industrial goods in the United States will have no analogues with the products list in 1982. (Footnote 3) Even now more and more frequently there is a situation whereby advanced technical equipment was purchased only 3-4 years ago and on the threshold are new, more effective models that cannot be ignored under the conditions of the extremely keen competition. Naturally, therefore, the firms try to diversify their forms of investment. They acquire some of the equipment as property and other

equipment--that has the greatest risk of obsolescence--they lease. The producers of their equipment have their own motives regarding this.

At the same time the expansion of licensing is the result of the aggravation of the sales problem and the complication of the entire complex of conditions of capitalist reproduction. The shocks of the crisis of the 1970's and 1980's have changed many priorities in economic development and have made it vitally necessary to have a radical restructuring of the production apparatus. Under these conditions there is a sharp increase in the significance of the mobility factor and the capability of rapidly mobilizing the necessary resources. Leasing becomes a means of solving not only current, but also long-term problems and an important source of additional profit.

#### Who Leases Out Technical Equipment and Why?

Of course, it is mainly industrial companies that are trying to provide additional sales channels for their products. For them leasing is a means of active marketing, an instrument for market expansion. By including leasing in their sales programs, they expand the range of consumers with those enterprises which either do not need to own the equipment permanently or cannot acquire it as property, or want to try it in operation. With the help of leasing, there is a channel of feedback between the producers and the consumers of the equipment: during the course of its short-term utilization, they disclosed the design shortcomings and all the information of this kind is sent back to the manufacturing enterprises so that they can take measures to eliminate them.

A typical example of the utilization of leasing as a sales instrument is provided by the practice of the American company "Lasercom America which specializes in the production of means of automated planning. The attempts on the part of its management to expand its clientele through small, highly technical enterprises initially produced no effect. Few could allow themselves to purchase equipment costing \$100,000, and even the firm itself had a poor idea of the specific nature of this sector of the market. Then it resorted to licensing, thus taking advantage of the services of the licensing company "Commercial Credit Equipment Corp." As a result, the annual sales volume increased by 20-25 percent.

Another motive is the possibility of using leasing to force the rates of updating of products. Having such a sales channel, industrial companies can accelerate the replacement of models and, on the basis of this, win new markets. Thus the leaders in the production of computers and copying equipment, the American companies IBM and Xerox, produce new models practically every year, turning the old ones over for leasing. They receive 50-70 percent of their earnings for this form of sales. On the whole, in the U.S. economy, according to certain estimates, about 20 percent of the new kinds of technical equipment are sold through leasing channels.

It is not only industrial companies that play the role of lessors, but also many other capitalist enterprises that have nothing to do with the creation of technical equipment. First and foremost are banks and other financial-credit institutions. They purchase equipment on the request of clients and rent it,

simultaneously rendering a number of financial and nonfinancial services. Today there is not a single rental operation of any size that takes place without their participation. For bank capital leasing is a continuation of the course toward diversification of operations and active search for consumers. During 1973-1980 alone the volume of credit for leasing offered by commercial banks of the United States increased by a factor of 4.5--from 2.1 to \$11.7 billion. (Footnote 4) The largest branches or daughter leasing companies of the leading American banks such as Chase Manhattan Leasing Company, Lease Finance Group, and Great Western Leasing, have billions in circulation and conduct operations in many countries.

As for industrial corporations, they most frequently do not lease the technical equipment themselves, but do it with the help of leasing intermediaries. This situation is explained, in the first place, by the credit function of leasing which presupposes the participation of financial and credit institutions and, in the second place, by the complexity of this kind of transaction. Their organization and implementation are included in a special form of economic relations, the subject of the activity of specialized enterprises for financial-credit and commercial service. The decisive positions in the industry of leasing operations are occupied by branches or daughter companies of industrial corporations and banks. But along with them there are several thousand independent leasing firms of various types. The majority of them are small enterprises that are completely dependent on banks, which finance from one-half to three-fourths of the operations. As a rule, they specialize in leasing a particular kind of equipment and are oriented toward a narrow section of the market. There are firms that serve only small business (for example, the American company Interstate Leasing Systems offers services for the organization of operations amounting to a sum of \$50,000-100,000). The role of these enterprises is extremely great, and it would be no exaggeration to say that in many cases it is they and not the industrial companies that are the main subjects of leasing transactions.

#### The Motives of the Consumers

There are many of them and certain of them do not have anything to do with the real needs of production. But the main thing, perhaps, is that because of leasing the consumers have favorable conditions for updating their production apparatus and the products that they produce. They can replace technical equipment while being oriented toward its short-term utilization without waiting until it is completely worn out.

A good deal can be learned about this from the statement of the vice president of one of the large American banks, California First Bank, which concluded a contract with the licensing company for 5-year leasing of bank automated cash registers with an overall value of \$1 million: "The technology of these machines is being improved rapidly.... In the near future once can expect further innovations--machines with colored screens, devices for checking fingerprints, speaking machines. If we purchase the existing equipment we are tied to it. If we lease it we will be able to get rid of it after 5 years." (Footnote 5) In other words, the decision to lease includes the possibility of future reequipment.

A similar operation is possible because the licensing firms and the licensing branches of companies and banks take the risk related to the obsolescence of means of production. The contracts they conclude stipulate that the lease can be revoked at the request of the lessee. The client is given the opportunity to get rid of obsolete equipment long before its service life is over and to carry out the necessary "substructuring" of the production apparatus in the event of the appearance of more effective models.

Of course the services involved in the risk of obsolescence increase the rent. In general leasing is considered an expensive form of investment. Usually the sum of rent payments, even in the first years of operation of the equipment turn out to be appreciably more than the consumed value. This situation is regarded as normal in the business world: it is necessary to pay for services, the more so since in the majority of economic situations the losses are more than compensated for by the advantages from modernization of production.

As concerns licensing firms, their income, in addition to rent payments, includes also interest and tax rebates (they will be discussed below) and also payment for risk: the sum of rental payments is the greater the higher the risk of obsolescence. When concluding a transaction they try to increase the payment for risk when this risk is minimal as well. If they manage to do this the residual value of the equipment that is turned over for leasing is higher than expected and it can be leased again or sold. The consumers of the equipment are usually enterprises with a low level of technology and also firms operating in branches that are remote from the main sphere of application. It is clear, therefore, that the success of leasing companies is determined largely by the knowledge of the market for equipment, including used equipment.

The attractiveness of leasing as a form of investment is determined also by its role in increasing the flexibility of production programs. Under the conditions of scientific and technical progress the life period of economic solutions becomes shorter, and the internal structure of corporations is less rigid. The economic situation is always making adjustments to the investment plans of the monopolies. Any risk or any initiative in one way or another entails a readjustment of production. And here leasing is irreplaceable. For instance, a new product is being assimilated. Even after going through the stage of experimental production, when one discovers how promising it is for the firm, many technical and economic aspects remain unclear. The implementation of the first contracts reveal certain kinds of incompleteness that require additional resources. Leasing pushes back the rigid framework of investment plans, making it possible to complete the necessary additional development of technology.

Because of leasing the firms have the opportunity to satisfy short-term, seasonal and episodic demands. Its significance is especially great in branches of services where the enterprises come up against the most mobile, differentiated demand that is concentrated in particular periods, which dictates the need for constant restructuring of the production apparatus. For example, the giant of air shipments, the Pan American Airways firm in 1981 ordered 28 air buses of the latest design which were to have been delivered in 1987. But during this time the situation in the market changed and it was

necessary to expand capacities. To purchase new technical equipment means to freeze considerable amounts of money. The solution was found in leasing 16 air buses of the old model for a short period of time.

Leasing provides an advantage when expanding the geography of an enterprise's activity as well. For example, a construction firm receives an order in a region that is distant from its main place of operation. The delivery of complicated equipment is frequently too costly a measure. In this case it is more advantageous to resort to licensing. In England 50-60 percent of the road construction equipment is acquired through leasing.

In the practice of capitalist enterprises they value extremely the fact that technical equipment that is leased for a specific period is not on their books and the rent payments pass through the various items of current expenditures. In order to acquire equipment as property, the management of the primary subdivision of the corporation must substantiate this decision for the board. This requires a revision of already established investment plans and entails overcoming many bureaucratic barriers. But leasing is not formally considered to be an investment and expenditures on it can be made from circulating capital, which makes the transaction considerably easier. The president of the leasing firm Capital Group Inc. notes in this connection: "A branch of the company wants to have technical equipment for automatic processing of verbal information. It costs \$15,000 and it will take 6 months to acquire approval to obtain it. But the same technical equipment can be leased immediately for \$160 a month.

Moreover, licensing institutions usually find it easier to grant credit than traditional financial and credit institutions do, which is related primarily to their knowledge of the market for used equipment. In the event of the client's bankruptcy they can lighten their losses by selling the equipment. But these enterprises too exercise a rigid selection of investment plans, weeding out all that are not very promising or are hopeless.

The attractiveness of leasing for the consumers is determined also by the possibility of obtaining technical servicing and other kinds of service. With operational leasing, as was already noted, all the responsibility for maintaining the property is placed on the leasing companies. They eliminate defects and service equipment, relying on the material and technical base of the mother company or specialized enterprises, and sometimes on their own (the largest ones have their own staff of repair workers, garages, shops and so forth). Moreover, the lessors usually guarantee a certain effectiveness of the equipment. In essence, it is not production capacities, but a strictly stipulated effect that is leased. The consumers are relieved of many concerns and they do not have to become involved in technical details. It is important to them what they receive during the course of temporary utilization of means of production. Any deviation from the parameters stipulated by the contract is a basis for dissolving it.

The slogan of licensing companies is: "Our Product Is Leasing But Our Main Business Is Service." The volume of services offered is extremely significant and many of them go beyond the framework of intermediary operations, determine the final effect of investments. Leasing companies study the production of

the clients and take on commitments to provide models that correspond most to their needs. The companies American Equipment Leasing and Commercial Credit Equipment Corp. carry out programs of "total" leasing--they purchase and lease sets of equipment for complete modernization of production. Certain firms offer services for products for sales of products obtained with the leased equipment, including the organization of advertising, that is, they act at the same time in the role of sales agents for the client.

Included among other services are insurance of the equipment, consultation on problems of operating the equipment, control of the risk of obsolescence, sale of used equipment, preparation and implementation of the rental transaction. The last is especially important. The advantageousness of the transaction depends on the ability of the licensing intermediary to take into account the condition of the loan capital market, the norms of tax legislation, the prospects of technical development, and so forth.

In the leasing mechanism consideration of bypassing tax legislation play a large and sometimes decisive role. When conclusion a leasing contract the lessee and lessor try to obtain tax rebates which cannot be achieved with ordinary transactions. First of all, these are rebates related to investments. They are paid depending on the profit: a large rebate corresponds to a large amount of profit (in order to stimulate the most highly profitable branches). Therefore, the situation is extremely widespread in which the investor cannot take advantage of tax benefits because of the insufficiently large amount of profit that is taxed. Most frequently new companies that are assimilating products of the future end up in this situation). But if the equipment is leased, then the lessor receives the tax rebate: officially he plays the role of an investor. The task of the purchaser of technical equipment is to find a firm with a large volume of profit that is ready to take on the financing of the purchase and subsequent leasing. Both sides usually end up with an advantage: the lessor receives a tax rebate and transfers part of it to the lessee by reducing the amount of the rental payments.

In the United States, according to official figures, the volume of fictional transactions concluded exclusively for purposes of getting around tax legislation in 1982 was \$16 billion, or 28 percent of all the leasing of machines and equipment. In certain years the "upsurge" of leasing is almost completely determined by changes in tax legislation. For example, in England a considerable increase in these operations during 1983-1984 was linked to the expectation of a reduction of tax breaks in 1986, and also the tax rates for corporations (from 52 to 35 percent). The firms try to take advantage of the benefits before they were removed, and therefore they expanded their leasing transactions.

#### The Macroeconomic Effect

If one excludes the considerable speculative element in leasing transactions, the advantages obtained by individual firms are formed into an overall economic effect that is embodied in new technology and an additional volume of production of goods and services.

This is first and foremost an effect of expanding production capacities. Of course the leasing of machines and equipment is carried out within the framework of the total investment demand which, in turn, is determined by the overall economic situation. But all other conditions being equal, it creates additional incentives for accumulation and accelerates the process of transforming capital from loan capital into functioning capital. At the present time in the United States leasing has been transformed into an important, and in certain years, a major source of external financing. According to an estimate of the consulting firm Brimmer & Co., in 1984 lease financing amounted to \$74.4 billion, loans from commercial banks--\$61 billion, industrial obligations--\$38.3 billion, shares in corporations--\$7.7 billion, and commercial mortgage credit--\$1.4 billion. Leasing operations contributed to the creation that year of 1.4 million jobs, including 380,000 in the production of transportation equipment, 180,000--office equipment, 94,000--medical equipment, 90,000--construction equipment, and 74,000 in the production of computers.

In the second place, this is an effect from acceleration of scientific and technical progress. Because of leasing operations the producers have an additional channel for selling technical equipment and a means of accelerating the updating of production, which is especially important for the development of new, highly technological branches. At the same time leasing makes many kinds of costly equipment more accessible. The range of its consumers is being expanded to include small and medium-sized business. The achievements of science and technology are penetrating into the pores of the economic structure.

In the third place, it means an increased effect from investments. By contributing to the modernization of production, leasing provides for increasing the productivity of technical equipment. There is no longer a need for freezing large amounts of money. The firms can acquire equipment on the basis of an average and not a maximum need for it. They are able to use models that correspond most to their needs while relieving themselves of many of the functions of technical servicing. It is also important that when leasing, there are additional incentives for saving: for the technical equipment is most frequently used for a short period of time, it is costly, and so it is necessary to derive everything possible from it.

Like any form of business relations, under capitalism leasing has a dual nature. It facilitates and streamlines the acquisition of fixed capital but at the same time it periodically takes the economy beyond the framework of its actual possibilities, and increases the threat of a chain of bankruptcies and destabilization of the financial and credit system. Licensing deepens the disparity between the actually consumed value of technical equipment and the volume of amortization deductions, which leads to an increased volume of outlays and higher prices. The immense volume of fictional leasing which has the goal of evading tax legislation increases the imbalance of state finances. All this limits the effect of leasing and gives rise to new contradictions in capitalist reproduction.

FOOTNOTES

1. For more detail about the kinds of leasing see Medvedkov, S. Yu., "Leasing in the Economy of the United States," SShA: EKONOMIKA, POLITIKA, IDEOLOGIYA, No 5, 1979, pp 95-97.
2. BIKI, 5 March 1985, 8 August 1985, 28 February 1984.
3. MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA, No 7, 1985, p 28.
4. Ibid., No 12, 1983, p 65.
5. FORTUNE, 18 March 1985.

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## BOOKS ON ECONOMIC MANAGEMENT SURVEYED

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[Review by S. S. Shatalin, corresponding member of the USSR Academy of Sciences, Institute of Economics and Prognostication of Scientific and Technical Progress of the USSR Academy of Sciences (Moscow), of the series of monographs "Voprosy optimalnogo planirovaniya i upravleniya sotsialisticheskoy ekonomikoy" [Questions of Optimal Planning and Management of the Socialist Economy], "Nauka", edited by Academician N. P. Fedorenko]

[Text] They can still remember the stormy discussions of the 1960's when many economists doubted the possibilities of applying mathematical methods in theoretical analysis and declared economic cybernetics and econometrics to be "reactionary bourgeois teachings." The doubts were replaced by semi-acceptance: in general it is possible to apply mathematics, but the proposed specific methods of optimization were inapplicable in a real socialist economy (price setting, planning and so forth). The desire to strip away the content of the economic and mathematical approach to the economy in practice resulted in adequate and nonmandatory application of computers in planning and the utilization of the majority of ASU's not as systems for optimal management of economic objects but only for comprehensive collection and processing of reports. This, naturally, discredits economic and mathematical methods and models. Incidentally, another thing is even more important: a most important reserve for increase the effectiveness of production is not utilized.

Here, unfortunately, one can see the effect of an extremely widespread negative attitude toward the new on the part of many management workers, an attitude that was condemned by the 27th CPSU Congress: for the plant director and for the production worker, as economic and mathematical methods in this respect are also "new technology." Before they can enjoy the economic effect, profit and additional money in the incentive fund, it is necessary to work with them, to assimilate them and to study them seriously. Not everybody likes to do this.

Yet only consistent realization of the principle of the optimum in any national economic decisions, plans and measures can provide for effective utilization of the advantages of the socialist economy. This natural idea was at one time embodied in the idea of a gradual, stage-by-stage construction of

a so-called system of optimal functioning of the socialist economy (SOFE). Essentially this pertained to the development of one of the possible variants of the country's future economic mechanism that extensively utilizes economic and mathematical methods and electronic computer equipment. Research based on this idea attracted around it a group of scientists in the economics and mathematics area--economists, mathematicians and cyberneticians. This made it possible to advance significantly in the methodological questions of the SOFE, applied areas of planning, and the organization of management and incentives. Many achievements that were included in the arsenal of economic science and management practice have as their source the research in the area of the SOFE. We shall mention only the best-known of these: the anti-expenditure methods of socialist price setting, methods of target program planning, optimal planning and distribution of production, evaluations of natural resources, and optimization of the improvement of well-being. Such principles and concepts as the unity of the plan and prices (more broadly--the economic mechanism for implementation of the plan), the stochastic nature of the economic system and the need for prognostication of its development under the condition of socialism, methods of utilizing all-encompassing expenditures in technical and economic calculations, principles of payment for the utilization of resources and many others that are widely utilized and recognized by science have the same source. Herein, in my opinion, lies the permanent significance of research in the area of SOFE.

Now that the 27th Party Congress has demanded a radical reform of the economic mechanism, it will undoubtedly be necessary to expand, deepen, and intensify research on theoretical and methodological methods of optimal functioning of the socialist economy. Yet many artificial later developments and unjustified accusations that distort its content significantly have formed around the theoretical concept of optimal functioning of the socialist economy. Of course there are also scientific objections and indications of questionable areas in the assertions of the proponents of this concept, which is natural since the truth originates only in truly scientific disputes.

Favorable conditions for a deep and unprejudiced analysis, which would eliminate many doubts, reveal crucial issues and earmark ways of resolving them appeared with the publication in the "Nauka" Publishing House of a 10-volume series of the collective work "Voprosy optimalnogo planirovaniya i upravleniya sotsialisticheskoy ekonomikoye" [Questions of Optimal Planning and Management of the Socialist Economy] (N. P. Fedorenko, general editor). It was prepared by scientists of the Central Economics and Mathematics Institute (TsEMI AN SSSR) and several other institutes.

We shall list the volumes not according to the years of their publication, but in a logical sequence of the problems investigated: "Introduction to the Theory and Methodology of the System of Optimal Functioning of the Socialist Economy" (1983), "Problems of the Methodology of Comprehensive Socioeconomic Planning" (1983), "Methods of National Economic Prognostication" (1985), "The System of Models of National Economic Planning" (1983), "Interbranch Complexes in the System of Models" (1983), "The Economic Mechanism in the System of Optimal Functioning of the Socialist Economy" (1985), "Modeling in Processes of Management of the National Economy" (1984), "Problems of Development and Implementation of Comprehensive Programs" (1984), "Economic and Mathematical

Models in the System of Management of Enterprises" (1983), and "The Mathematical Apparatus of Economic Modeling" (1983).

The scientific results contained in the 10 volumes of the series can be conventionally grouped into four sections: general theoretical issues, planning and prognostication of economic and social development; the economic mechanism and management; and the development of the mathematical apparatus for economic research.

#### The Theory of Optimal Functioning of the Socialist Economy

The series is opened with the book entitled "Introduction to the Theory and Methodology of the System of Optimal Functioning of the Socialist Economy" which generalizes to a certain degree the results of many years of research in this area and sums up the preliminary result of long theoretical discussions around the idea of optimal planning and management. With the work "Introduction" the authors have deliberated limited their scientific claims. They consider the SOFE as an independent scientific discipline that studies objective general patterns in rational organization of production processes and effective distribution and utilization of economic resources that provide for the maximum possible final results of public production (p 87). Thus they draw a fairly clear distinction between the area of research on the SOFE and the subject of the political economy of socialism. Revealing the content of the key economic categories of socialism, the authors disclose the specific nature of their research within the framework of the political economy and the system of optimal functioning of the economy, emphasizing the leading role of political and economic analysis (pages 71-74). They proceed from the idea that the theory of SOFE is called upon to concretize the provisions of the political economy with respect to problems of efficient utilization of production resources and in terms of the concrete economic disciplines (branch economics) it performs the functions of a theoretical and methodological base.

While recognizing the right of the concept "SOFE as an Independent Scientific Discipline" to exist, one should seriously reproach the office for the fact that they have practically paid no attention to the fairly well-substantiated alternative point of view: the optimal approach is a paradigm of economic thinking, a language of the most adequate research of objective patterns in the functioning of the socialist economy.

Mathematical models of optimal planning make it possible to reveal the most effective methods of utilizing production resources in the national economy and in the branches. The economic meaning of an organic constituent of part of these models--evaluations of products and resources--still evokes lively and, unfortunately, not always correct discussions. For example, is it necessary to consider the average or maximum amounts to be a mutually exclusive basis for the formation of socially necessary expenditures of labor? The authors of the book prove that both exist objectively and are closely interrelated, and it is impossible to find socially justified values for average amounts without utilizing the limits (pages 223-235).

The monograph considers methodological problems of improving planned management of the economy and analyzes the basic prerequisites for deliberate

control of the national economy: democratic centralism and economic independence of units, the mechanism of planned functioning from the cybernetic standpoint, economic levers and stimuli. The presentation of these prerequisites is especially crucial in light of the tasks set by the 27th Party Congress.

The authors correctly emphasize that the quality and effectiveness of planning and economic incentives depend significantly on the substantiation of economic normatives and they investigate these in close interconnection with evaluations of the optimal plan. The unified normative of effectiveness is regarded as a means of fighting against departmental and local economic interests of the managers. At the same time the monograph correctly shows that it is wrong to directly identify various payments for the utilization of resources with the amount of the estimates of the optimal plan. The latter are important but not the only reference point for concrete rates of payment for resources (like other economic normatives). It is also necessary to take into account the complex of socioeconomic factors which so far cannot be adequately reflected in models. What has been said is especially important for an understanding of the interconnection of optimal estimates of labor resources and remunerations for labor (pp 310-326).

The book also contains a lot of new material on system modeling of socioeconomic processes, which shows the essential advancement of science, particularly in the area of models for coordinating economic decisions and methods of imitation modeling. The work analyzes the inseparable link between the development of economic and mathematical modeling (the solution of problems of optimization) and the introduction of mathematical methods and electronics computer equipment into the practice of planning and management of socialist production. Here it is important to have a mutual adaptation of new methods and existing production-economic, legal and psychological conditions for their actual utilization.

Under modern conditions there is a sharp increase in the role of the human factor in implementing the concept formulated by the party for acceleration of socioeconomic development. The authors reveal the role of the human being in the economy as the major productive force and the bearer of production relations, as the subject of their deliberate optimization. But in the chapter devoted to these questions, unfortunately, there is little that is new, which is fairly typical of the book as a whole.

The first volume of the series can be utilized by economists and VUZ instructors when developing many important problems of political economics of socialism and problems of planning and management of the national economy.

#### The Plan and Prognostication

The volume entitled "Problems of the Methodology of Comprehensive Socioeconomic Planning" is based on the idea that it is necessary to develop models of the object and the process of planning and then combine them.

After the target and resource aspects of the development of the plan, there is a detailed description of the object of comprehensive socioeconomic planning:

intercoordinated into a unified plan are the basic blocks and contours of reproduction of material and labor resources in the population, and there is also an indication of the position of economic subjects in these contours and the role of the economic mechanism in the structure of the economy.

The development of the system of plans for economic and social development (from long-term to current) is presented in the form of a "technological" schema with special attention being paid to future planning. And this is understandable, since it is precisely when determining the long-range future and its coordination with the five-year plans that one realizes most fully scientific and technical progress and its interconnection with economic and social processes.

Unfortunately, only the last chapter is devoted to a principally important and new problem--the coordination of models of the object and the process of planning. This research is still largely investigatory and in the monograph it is represented by several variants of approaches to modeling. One wants to wish the authors success along this path.

On the whole, in spite of individual problems and gaps in the presentation, the volume entitled "Problems of the Methodology of Comprehensive Socioeconomic Planning" reflects completely enough the research in this area that was begun at one time in the TsEMI AN SSSR. As early as the 1970's many of its important points were taken into account in practice. This pertains, for example, to the idea of continuous planning, methods of developing target programs, and a number of methodological elements of the ASPR. The monography under review demonstrates the scientific fruitfulness of this system in further development of the theory and methodology of planning.

Closely related to the problem under consideration are questions of prognostication of the country's socioeconomic development. At the present time the role of national economic prognostication as a scientific basis for plans is increasing. The material presented in the book "Methods of National Economic Prognostication" has been extensively verified in research and calculations of the TsEMI AN SSSR during the development of the comprehensive program for scientific and technical progress of the USSR. The authors have analyzed the effectiveness of various methods and models and revealed their specific features as well as possible limitations to their application. The concrete models of the prognostication of the growth of material production presented in the book are based on a model of interbranch interactions that is fairly well described in economic literature.

Accounting for the principle of system when developing national economic prognostications presupposes the creation of methods and models which would correspond to the content of each block of prognostication individually and would simultaneously make it possible to construct an integrated picture of the possible development of the national economy. Therefore the models of branch distribution of labor resources and capital investments take into account the principles for constructing a model of interbranch interconnections and can be included when developing a statistical model of interbranch interactions in the dynamic model as one of its blocks.

Individual chapters of the book are devoted to prognostication of the development of machine building, scientific and technical progress, and well-being.

A great deal of attention is devoted to determining the basic directions for scientific and technical progress in individual spheres of production. A shortcoming of the book is that it has poorly developed one of the central and, perhaps, one of the most complicated problems--the interconnection between scientific-technical and socio-economic prognoses. It must be recognized that this is also reflected in the organization of the work on the comprehensive program for scientific and technical progress, where there is a good deal less to do. But on the whole this volume is good support for the numerous scientific collectives engaged in the prognostication of the social and economic development of the country as a whole and also individual regions and branches.

The volumes entitled "The System of Models of National Economic Planning" and "Multibranch Complexes in the System of Models" reflect the results of research in system modeling of the economy. Systems of models of planning have been developed in the TsEMI AN SSSR, the Institute of Economics and Organization of Industrial Production of the Siberian Branch of the USSR Academy of Sciences, the Main Computer Center of the USSR Gosplan and other scientific organizations. A certain amount of experience in their practical utilization has been accumulated, although researchers are apparently only at the beginning of the road.

The authors have presented the basic requirements on the system of models of optimization of the national economic plan: the orientation toward the realization of a complex of goals of national economic development, the reflection of the hierarchy of goals and the interests of the society, the selection of the most effective directions for scientific and technical progress, the organic coordination of material-substantial proportions with the financial plan and the system of economic normatives, the accounting for the socioeconomic consequences of the implementation of the plan, and so forth. All the systems of models of planning suggested in the monograph are oriented toward meeting these requirements.

It should be especially noted that, in spite of the appreciable differences in the methodology for constructing systems of models, the authors have managed to analyze the advantages and shortcomings of each system and develop a general view of the prospects for the development of this area of research. The book entitled "The System of Models of National Economic Planning" reflects the principles of the multistage optimization of long-range plans for the development of the economy, optimal national economic planning in the branch and territorial cross sections, modeling of the interaction among regions in the national economy, optimal distribution of production, prognostication and planning of generalizing indicators of the development of the economy that have been approved not only by science, but also by planning agencies.

The macrolevel of the majority of systems of models of national economic planning is composed of various variants of the interbranch balance. The

monograph gives dynamic interbranch models, the balance of the national economy and the physical-value interbranch balance models.

The monograph entitled "Interbranch Complexes in the System of Models" gives the general principles of modeling branches and interbranch complexes, the results of modeling construction, forestry and transportation complexes, ferrous metallurgy, agriculture and other branches. When developing these the authors tried first and foremost to coordinate the planning of individual branches with principles of national economic planning within the framework of the system of models. The volume also gives the results of experimental calculations on systems of models of branches and interbranch complexes. It should be noted that in many cases it is not yet possible to go beyond experimental calculations. In order to organically include the systems of models considered in the last two books in the practice of central planning agencies it will be necessary for scientists and practical workers to do considerable work together.

#### The Economic Mechanism

In the monograph entitled "The Economic Mechanism in the System of Optimal Functioning of the Socialist Economy" the economic mechanism is interpreted as a totality of methods of managing the national economy and an organizational-management structure that is adequate to it. The key problems linking the various levels of management into a unified complex include: the construction of a unified system for comparing expenditures and results, and also a noncontradictory and goal-directed system of coordination of the interests of various subjects of socialist management; the provision of continuous work of all units of the economy under conditions of discrete management signals and planned assignments, and continuity of functioning.

The theoretical research and analysis of the experience accumulated during the course of the large-scale economic experiment let the authors to the conclusion that an effective coordination of production processes with the national economic needs is possible only as a result of further activation of the horizontal economic ties in production and an increased economic role for the consumer enterprises. Measures are suggested for protecting their interests. In the opinion of the authors, the interest of the producers in maximizing the final results is impossible without deepening cost-accounting [khozraschet] and expanding economic independence and responsibility of the enterprises. Attention is correctly drawn to the problem of accelerating the circulation of fixed production capital.

It should be noted that in economic literature centralization is frequently unjustifiably equated with administrative methods of management. In demonstrating the groundlessness of this point of view, the authors of the monograph reveal the essence, the basic directions and the forms of centralization. A method is suggested for forming evaluations of the effectiveness of the utilization of program methods and a procedure for selecting problems for program development. The most important stage of this procedure is the disclosure and analysis of complex situations which can arise in various stages of the solutions to these problems.

A considerable amount of space in the book entitled "The Economic Mechanism in the System of Optimal Functioning of the Socialist Economy" is devoted to theoretical and methodological problems of determining and utilizing various economic normatives. On the basis of an analysis of the categories of socially necessary expenditures and social needs, they investigate the dual role of the price, which acts, on the one hand, as a derivative of the national economic plan and, on the other, as a reference point for its compilation. A model is suggested for the price of planned expanded reproduction which reflects the real priorities and provides the necessary conditions for self-financing of the branches. In the opinion of the authors, which, unfortunately, is not sufficiently backed up by strict proof, the prices of planned expanded reproduction and the prices of the maximum effectiveness do not contradict one another and in practice can act as mutually augmenting modifications of planned prices in the unified national economic system of price setting. In our opinion, the authors do not devote enough attention to the principle of self-financing.

The monograph shows that from the standpoint of the theory of optimal planning, there is an equivalence between the well-known definitions of the normative of effectiveness of capital investments given by A. L. Lurye, V. V. Novozhilov and L. V. Kantorovich: the normative as an instrument for balancing supply and demand for capital investments, as the maximum norm for replacing current expenditures with capital ones, and as an average rate of decline of evaluations.

The optimizational approach to an economic evaluation of natural resources is regarded as a most important lever for providing for economic balance of the economy and maintenance and improvement of the natural resource potential. It should be noted that the methods of economic evaluation of natural resources considered by the authors (especially of deposits of minerals) have been introduced into practice to a considerable degree. In particular, these are the basis of the "methods for economic evaluation of the most important kinds of natural resources in the CEMA countries."

In the monograph scientific and technical progress is understood as a planned process of intensification of public production that provides for increased effectiveness of the utilization of resources and (on this basis) the achievement of the final goals of long-term socioeconomic development. The authors assume that the evaluation of the effectiveness of scientific and technical progress should reflect the actual increase in national income as compared to its normative level determined on the basis of the economic normatives of effectiveness of the utilization of capital and labor in the initial period. They consider concrete methods of measuring the effectiveness of new technical equipment and convincingly show that these require improvement of prices for products for production and technical purposes.

When determining the effect of new technical equipment it is especially important to take social factors into account. The book gives a general classification of the social results and the main forms in which they can be taken into account when evaluating the effectiveness of measures of scientific and technical progress, namely: limitations reflected by social standards and normatives; factors influencing the economic result of the functioning of the

facility; characteristics that are included in the definition of consumer value of the product (service) and are taken into account when establishing prices (a formal apparatus for the calculations is given).

One of the sections of the book substantiates the need for controlling the investment sphere (including reproduction of fixed capital and its utilization) as an integrated system and considers the effectiveness of credit according to various criteria. For the first time a definition is suggested for the effectiveness of bank credit in the totality of all the functions performed by it (the degree of correspondence between the mass of functioning credit money and the mass of existing money determined by the law of monetary circulation).

The interconnection between improvement of the economic mechanism, the optimum, equilibrium and balance is investigated in the monograph. In particular, new possibilities are demonstrated for qualitative research on the economic processes when utilizing the multicriterial approach; a theory of equilibrated models is suggested; connections between the equilibrium and the optimum are explained; and results are given from research on balance on the market of consumer goods. It seems that the results of research included in the monograph could be usefully taken into account when developing the basic provisions for the forthcoming radical economic reform.

The book entitled "Modeling in the Processes of Management of the National Economy" shows that the man-machine system and utilized methods of imitation modeling are applicable in solving problems of national economic planning and functioning of economic objects. In spite of the fact that ideas of imitation modeling are utilized more and more extensively when investigating various levels of management of the economy, the construction of imitation systems and especially the practice of conducting experiments on computers still require methodological and theoretical substantiation. In this connection the material on imitation modeling presented in the book is of considerable interest for researchers.

In the second section of the monograph attention is concentrated on accounting for the incompleteness of information in management; principles and factors of indeterminacy are analyzed; and indicators and categories of the development of the economic system that take into account the overall principles of decision making and the behavior of its elements under the conditions of indeterminacy are considered. Models are given for controlled scientific and technical progress and multibranch economy with undetermined outputs from individual branches. Certain parts of this section that affect extremely important problems of economic science and practice are presented, unfortunately, too abstractly.

A resolute changeover toward intensive development of the national economy brings about new methods of management and more effective means of planned leadership, particularly comprehensive target programs, which appeared during the period of the establishment of the system of socialist planning and became widespread in the past decade. Program methods of planning and management give rise to special problems which are analyzed in the monograph entitled "Problems of the Development and Implementation of Comprehensive Programs."

The TsEMI AN SSSR is one of the first in the country to engage in the creation of program methodology (it prepared the first methodology for the development of programs which was approved by the USSR Gosplan). Many years of joint research with the Gosplan and its scientific research institute have made it possible in the monograph under review to evaluate realistically the positive results and the unresolved problems of further development of program-target planning and management.

Attention should also be given to the fact that the authors consider the design basis for any program to be the goal-realizing system (although the term itself is perhaps not very good). When planning elements of this system they select strategies for solving the corresponding problem, calculate the characteristics of alternative variants, and plan the complex of necessary measures.

The problematic nature of the monograph and the enlistment of authors from various research collectives are reflected in its style. Individual chapters have turned out to be spotty. The relatively free consideration of methodological problems does not correspond in all ways to the more rigid presentation of methodological recommendations and model constructions. At the same time both are based on general principle prerequisites and on the whole successful augment one another.

The basic content of the monograph entitled "Economic and Mathematical Methods in the System of Management of Enterprises" is the methodology for optimizing planning decisions and forms of their model and algorithmic description that are intended for utilization at various levels of the organizational structure of management of enterprises. Important methodological results have been obtained here:

a systematic approach to modeling the hierarchy of plans for production and the long-term, current and operational management that are balanced in terms of time, resources and technical and economic indicators;

the development of complexes of models that describe the technology of planning in keeping with the structure of the overall process of decision making, the composition and interconnections of solutions applied in various subdivisions of management;

formalization of many problems of decision making in complex tasks of optimization (they have analyzed the complexity of the search for these decisions enlisted the requirements placed on methods for solving problems).

The models presented in the monograph have been utilized for various calculations and construction of plans for production, particularly at the Kalinin Khimvolokno Plant, and in the Svedazelektrotekhprom Production Association and the Krasnyy Proletariy Production Association imeni Yefremov.

Attention should be given to the practically important and relatively simply realized complexes of models of long-range planning that rely on a synthesis of optimization and nonoptimization methods. Among them are systems that make

it possible to determine an efficient ratio between reconstruction and expansion of production in technical reequipment of enterprises and also efficient volumes and time periods for replacing old items with new ones. The dynamic tasks of selecting volumes and time periods are realized with the help of methods of mathematical programming and standard packages of applied programs. The results of the solutions to the problems of long-range planning are used for determining tasks of current production and other sections of the technical and industrial financial plan, taking into account the peculiarities of the various stages of the development of the plan. The technology of this kind of planning relies a generalized model of optimization of a production program which takes into account the majority of facts that influence its selection.

From the complexes of models of current planning the authors move on to complexes of models of operational management which are among the especially difficult tasks. They are resolved with the help not only of already known methods of mathematical programming, but also new heuristic methods that have been developed by the authors. Certain of them (particularly the methods of calendar modeling, the formation of monthly plans for various parts, taking into account efficient batches for putting objects into production) have been investigated with respect to practice.

Many problems of planning and regulation of discrete production are resolved with the help of network models and methods of distribution of resources. A multinetwork model is suggested for volume-calendar planning of production, which can be used with various combinations of operations and technological processes.

A complex of network models has been developed for optimal planning and regulation of assembly production with the nonflow-line form of its organization which adequately describes the basic problem situations in the management of such objects. The proposed system of models successfully illustrates the compromise between the set of production and economic situations and the typization of management decisions in the automated control system.

The results of research that are considered in the monograph are especially crucial now when automated work places are being created for management personnel. The models proposed by the authors make it possible to automate the activity of managers of the planning and economics divisions of enterprises when developing five-year and annual plans and the production-dispatch divisions when distributing the production program among report and planning periods of the year (intershop planning) and also the managers of the shops--when forming programs with an optimizations of batches for putting products into production and also when drawing up calendar plans within the month.

#### The Development of the Mathematical Apparatus

The monograph entitled "The Mathematical Apparatus of Economic Modeling" is the first fairly systematic attempt to present in a single book the basic mathematical instruments for economic research (more precisely, its more

modern part which is now included in scientific communication). The material was selected according to the importance and applicability of the corresponding mathematical area when modeling economic processes. The book is divided into three sections: mathematical programming, mathematical economics, and applied statistics. The material is presented as a survey, without excessive details and proofs. It should be noted that this volume has interested many specialists. Reviews of it have been published, including abroad. This relieves us of the need to consider its content in detail.

On the whole the works under consideration make a significant contribution to the development of economic research and the development of the key problems of planning and management. They reflect the modern level of development of management, sum up the results, raise new problems and reveal directions for further development of research. In our opinion, the series will be interesting both to scholars working in the area of economic and mathematical modeling and to all economists who analyzed the laws of functioning of the economy and develop methods of planning and managing it. Soviet economists have taken important steps in the development of the theoretical foundations for the system of optimal functioning of the economy that are adequate to the level of development of productive forces and production relations and their individual elements in the practice of management of the national economy. But, of course, this is only the beginning. Immeasurably greater tasks await us in the future. On the one hand, it will be necessary to search for new paths in theory and strengthen the practical applicability of the accumulated economic and mathematical apparatus and, on the other, it will be necessary to achieve understanding and support of it on the part of economic workers.

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## PHYSICAL CONDITION PLAYS ROLE IN ECONOMICS

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 177-181

[Article by S. V. Koval, Yu. S. Mazurenko and M. S. Pushkar, Ternopol Financial and Economics Institute: "An Economics of Physical Culture Is Needed"]

[Text] According to data of the USSR Ministry of Health, each year 3.5 million people fail to go to work because of illness. (Footnote 1) A worker's loss of his ability to work for 1 day costs the state 12-20 rubles. If one keeps in mind that the proportion of workers in the overall number of people who are ill is 80 percent, the losses resulting from the products not produced because of this, according to our calculations, each year amount to from 12 to 20 billion rubles. Moreover, considerable amounts of money are spent on treatment and payment for the time of disability. And here a great deal of assistance can be rendered by physical culture and sports. Today they perform two important functions: social and economic. The social function consists in that physical culture and sports contribute to strengthening the health, reducing illness, and rational utilization of free time. And the economic function consists in that physical culture and sports contribute to reducing losses of work time, increasing labor productivity and, in the final analysis, increasing the effectiveness of production.

The development of economic problems of physical culture and sports leads to the appearance of a new branch of science--the economics of physical culture. This will make it possible to draw the attention of economists to this sphere of activity and to reveal paths for its influence on the effectiveness of the work of enterprises. In the final analysis expenditures on the development of physical culture and sports should be covered by the increased effectiveness of production (the increased output of products, greater labor productivity, reduction of labor expenditures per unit of output). The work experience of individual production collectives shows that the introduction of physical culture and sports into daily life leads to an increase in labor productivity. Thus at the Liyepay Haberdashery Combine it was noted that the introduction of physical culture for sewing machines operators, even after 3 months contributed to increasing labor productivity by 2.1 percent and the annual economic effect was 20,500 rubles. As a result of mass physical culture during 1976-1980 at the Moscow Prokatdetal Plant, labor productivity of the

workers increased by 0.8-1.5 percent. One can give many similar examples. It is no wonder than research shows that one out of every four people engaged in sports becomes ill while every other person not engaged in sports does. (Footnote 2)

It is known that motor insufficiency--hypodynamia--is one of the reasons for various illnesses. With a sedentary way of life the organs and skin age more rapidly, the metabolism and energy production and the activity and structure of the heart, blood vessels, liver and lungs are disturbed. It is no secret that three-fourths of the country's adult population are overweight today. And if a person is sedentary at work he needs to make up for this shortcoming by physical culture and sports. Yet sociological research shows inadequate involvement in this activity by our country's population. Only 20-30 percent of the population engage in physical exercises and only 8-15 percent do this systematically. The reason for this is the poor effectiveness of the social mechanisms for involving people in physical culture activity: economic, administrative, and ideological. While one-third of the population do not know how to use their free time (Footnote 3) the proportion of expenditures on sports in the overall budget of free time does not exceed 1-2 percent. Men spend 1 hour and 3 minutes a week on sports, and women--21 minutes a week. (Footnote 4)

What are the paths for drawing the broad segments of the population into physical culture and sports?

First of all there is extensive propaganda of the need to maintain one's body in working condition. Soviet and Japanese scientists have come to a unanimous opinion concerning the necessary minimum of movement--10,000-15,000 steps of daily walking, jogging, gymnastics, hiking and other active forms of movement. The minimum volume of motor activity in middle-aged and elderly people is no less than one hour a day. It is recommended that they engage in daily exercises and walking before bed and no less than 30 minutes of active recreation out in the open air. A significant effect can also be produced by economic factors. World practice knows such methods of attracting people to physical culture and sports as direct economic incentives (additional payment for the frequency and duration of engagement in physical culture and sports) and indirect (bonuses for the least number of days absent because of illness, one-time remuneration for physical training, for the length of time devoted to sports and so forth).

In our opinion, the most promising path is planning and financing mass physical culture and sports at enterprises and in organizations and associations. To do this it is necessary to envision in the technical and industrial financial plans a special subdivision concerning the development of physical culture in the section entitled "The Social Development of the Collective."

Industry has already accumulated experience in creating rooms for rehabilitation and which workers and employees engage in physical culture and sports. In these rooms one can relieve the physical and psychological load from the fatigued organism and receive a charge of cheerfulness. We think that in the future the enterprise should have entire sports complexes on its

territory (sports halls, swimming pools, stadiums, running paths and so forth). The money for these purposes can be taken from the fund for social-cultural measures and housing construction. Many enterprises have such complexes even today.

In order for the expenditures on physical culture and sports to be controlled we suggest including them in an independent item in accounting. It is known that by decision of the USSR Council of Ministers of 1 January 1959 the enterprises on cost accounting transfer to the trade unions 0.15 percent of the wage fund of all workers and employees for mass cultural and physical culture work. (Footnote 5) We think that today it is necessary to increase the amount of these deductions to 0.25 percent. This step is necessary in connection with the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Further Upsurge of Mass Physical Culture and Sports," which recommends that the ministries and departments provide for further development of physical culture and sports in labor collectives, having directed the efforts of plant, factory and local trade union committees, Komsomol, sports and public organizations toward the creation of the necessary conditions for engagement in physical culture and sports, the strengthening of sports clubs and physical culture collectives, and an increased number of section for GTO ["Ready for Labor and Defense of the USSR"], tourism, and general physical training and health groups.

Today the financial means for this work are inadequate. Thus under the 9th Five-Year Plan, on an average per trade union member for physical culture and sports they spent 3-5 rubles a year, and at individual enterprises--from several kopecks to 10-15 rubles. (Footnote 6)

At the present time the provisions have not changed since the money transferred by the trade union for cultural-math and physical cultural work is basically used for cultural measures. Obviously the time has come to differentiate the deductions made to the trade unions so that there will be separate ones for cultural-mass work and physical culture work. Obviously, the USSR Gosplan and the USSR Ministry of Finance, with the agreement of the AUCCTU, should develop provisions concerning the formation and utilization of deductions for physical culture work which would clearly indicate the amount of the deductions and the source as well as the purposes for which they are to be used. It is also necessary to indicate the policy for planning, reporting and accounting.

It is our conviction that not enough money is being allotted for physical culture from the state budget. Thus in 1984 111 million rubles were allotted for these purposes, or 3 million rubles less than in 1983. If one takes into account the fact that the average annual number of workers and employees in the national economy and kolkhoz workers employed in the public sector in 1984 amounted to 129.5 million, then for every 1 person employed in the national economy there were about 86 kopecks a year spent for physical culture work. According to calculations of the authors, the dynamics of this indicator are characterized by the following data: in 1960--62 kopecks, 1970--44 kopecks, 1975--57 kopecks, 1980--80 kopecks, and 1983--88 kopecks. (Footnote 7)

Unfortunately, a normative base has not yet been created for planning physical culture and sports at enterprises and an optimal amount of expenditures for each item per worker has not been determined, and without this information it is difficult to conduct a concrete discussion of the needs of the collective. This is precisely why mass physical culture and sports is developing to a considerable degree not on a scientific basis but on the enthusiasm of individual workers.

But still it is developing. Because of this in recent years the demand for sports equipment, sports supplies and clothing has increased. But trade frequently does not have them. In general the demand for sports and tourist goods is satisfied by only 40 percent. Of course this also has a negative effect on the increase of the numbers of physical culture and sports enthusiasts.

We have touched on only a couple of issues of such a complex and little-investigated subject as physical culture, sports and the country's economy. But even this brief discussion shows how much can be provided by the development of mass physical culture and sports and yet large expenditures are not necessary for this. According to our calculations, involving the entire population and physical culture and sports, according to the existing dynamics, would require expenditures of about 500 million rubles a year, and the return would be manifested in an increase in the national income of 7.5 billion rubles a year, including as a result of increased labor productivity (according to the most cautious presumptions, 1 percent)--2.5 billion rubles, and as a result of reduction of losses of working time because of illness (the reduction is assumed to be 30 percent)--about 5 billion rubles a year. There is no doubt that this reserve should be put into operation.

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## SUBJECTIVE FACTORS IN MANAGEMENT SATIRIZED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 3, Mar 87 pp 182-188

[Article by Leonid Treyer: "The Specific Nature of the Work of the Director of the Enterprise When There Are Stable Subjective Factors"]

[Text] (Lecture)

What is the paradox of the current moment? Everyone understands that they must not work in the old way. But not everybody wants to work in the new way. Decrees adopted at the highest level get stuck in departmental bogs, sliding out of them with a tale of changes. The number of directives concerning expansion of the rights of enterprises also increase, but the enterprises still dream about independence like the peasant at one time waited for serfdom to be abolished. The impression is that the enterprises exist not for producing products but for the continuous work of the higher agencies. From their high offices each day fly clouds of outgoing paperwork, and all this armada thins out on the plants and factories. Any trivia must make their way through the thick of levels of management, where the masters of passing and verbal dribbling sit.

But the demands placed on production workers are becoming stronger. Pressure is placed on the director through all channels. Every supervisor says to him: "Give!" And if he says: "Take!" it means that it is necessary to take additional concerns from him. Hence the abundance of reprimands and pre-infarctual conditions. It has been scientifically proven that under the conditions of a poorly adjusted economic mechanism the plant director goes through the stress of a snake charmer and this is surpassed only by the stress of the pilot of a strategic bomber at the time when his engines die.

Sympathizing with production commanders, we want to give them some useful advice. Our suggestions, of course, are not universal, but there is something to them.

The First Piece of Advice: Get Around Instructions With the Help of Instructions!

The director frequently reminds one of Gulliver, who is being hauled by Lilliputians on a long cart to their capital. Thousands of the finest threads bind Gulliver. All he has to do is move and a shower of arrows fall on the poor man. Incidentally, all that was required of Gulliver was one thing: to lie calmly on the couch without impeding the transportation of the oversized load. The position of the plant director is much worse! He "must not!" become entangled in the thousands; he must nonetheless display initiative and get himself out of hopeless situations. As a result, a well-known rule has appeared: "If it is impossible but very necessary, then--it is possible!"

It is necessary, for example, to construct a swimming pool so that the collective will grow up healthy. But you are permitted to construct only warehouses. And you construct your swimming pool, using it as a warehouse for storing distilled water. From this rule follows a side effect. Practically any director can be placed under the article...but we do not judge the winners and we feel sorry for the losers since they have no personal gain. But still the sword of the "code" swings over the directors. This is unpleasant. Especially today when one cannot rely on coverage from above. Mass elimination of regular workers is a sign of increased danger for those who are left. And directors must be triply cautious.

Our idea is fairly simple: the country issues so many decrees and instructions that for any instruction there is an opposite instruction. All one need do is be able to find it. The commission, say, has found a violation of the decree of 4 December 1982, paragraph 12, point "c." And you play your trump--the decree of 20 May 1967, paragraph 17, point "d," which nobody has abolished. Understandably, this method requires a strong legal knowledge. One director with a legal education was asked: "How do you manage always to fulfill the plan for contractual deliveries?" "It is very simple," he answered. "In every agreement we include a point that cannot be fulfilled by our partner..."

This, of course, is an extreme case of legal piracy. But rational utilization of red tape will not harm you. If you do not have time for study, select for yourself a legal diehard and then every one of your maneuvers will be based in the law. Remember! When normal heroes make an evasive movement, they take legal experts with them!

#### Second Piece of Advice: Exist in Three Copies!

It has been calculated that the director sends a large part of his life at conferences. Economic acceleration has accelerated the maturation of meetings. Directors are called into the branch staff in order to sharpen them, and to emphasize the role of the human factor.

Many managers of enterprises have changed over to the watch method: a week in Moscow and a week in the base city. But even at his home base the director has no respite from meetings. Local agencies attack him with threatening telegrams: "Your personal attendance is absolutely mandatory!" There are occasions when they order him to appear at three conferences that begin at the same time. The subject matter of the conferences is extremely broad: from prevention of colds to holding a city holiday to "Let Song Spring Forth!"

The question arises: When does the director have time to do his main work?

Sitting at the plant deep into the night is not the best solution, for the director, exhausted by conferences, is capable of messing up. Moreover, his staff is also forced to work after hours, which is reflected in the attitudes of his subordinates and their wives.

There is a solution. It was known even in the distant past. Many crowned heads had their doubles. If a monarch was busy or felt that they were preparing for an attempt on his life, he sent his double. This is precisely the path we recommend for production commanders if they love both their life and their work.

The main task is to select the double. The search should be made by people who are devoted to him and who are able to hold their tongue. A 100-percent likeness is not mandatory. Makeup, the hairdo and clothing provide a reliable effect. Sometimes it is necessary to lose or gain weight in order to approach the size of the double. The most successful doubles come from actors who are not successful but have not taken to drink either. For about 200 rubles a month the double will probably agree to take your place from morning to night. The main thing required of his is that he remain silent, and if he must speak, there should be no improvisation, he must read strictly from the paper.

Incidentally, the proposed method, even with all its merits, already lags behind the real needs. The number of conferences is increasing so rapidly that the double cannot possibly attend all of them. Therefore try to provide yourself with a triple. By existing in three copies you will save much time, which is in such short supply for you.

#### Third Piece of Advice: Give the Demagogue a Chance!

Anonymous letters and complaints about directors have been written in the past as well. But today they are written more frequently. And not because the directors have become worse. The time is such that one wishes to get on the right path. The age of sweet lies has been replaced by the stage of bitter truth. Broad segments of the population are taking up their pens in order to say what is bothering them. And this is gratifying. For there is the hope of getting rid of the idiocy which is still plentiful in our society. But here is what alarms us: the idle demagogues have come to life. Having caught the spirit of the time they have thrown themselves into advertising the shortcomings, forgetting about their own idleness and settling accounts with those who have offended them. Of course, one of the first to be tortured by them is the director.

"At a time when the fresh wind of change is blowing through the country," writes one chatterbox to five different agencies all at once, "the director of our plant, Petrov, A. P., is putting pressure on honorable and intelligent specialists, preferring the underhanded grovelers. Taking advantage of the protection of local agencies, Petrov, A. P., has allowed the following abuses...." The accusation consisting of 40 points ends with the appeal: "I request that you take immediate measures to put a stop to this disgrace and strengthen our belief in the triumph of justice!"

At this signal the commissions come and tremors begin to run through the plant. Hundreds of people are taken away from their work, passions flare, rumors circulate, and there is no time to work.... Many directors hasten to declare the demagogue-complainer a "persona non grata" and suggest that he disappear for 24 hours at his own request. Thus he braces himself for the next blow. "They persecute you for criticism!" cries out the "martyr." "I request that Soviet power be defended!"

It is defended, and the director is given a reprimand.

What is to be done with the militant idler who has gotten drunk on democracy? One cannot refuse to pay attention to him: this only aggravates him. But still there is a tried and true means of restraining this type--the collective. As long as the demagogue is tormenting only you, you are alone and weak. Give him a chance to show his true colors. Assign him a specific job with specific deadlines (introduce, assimilate, test, eliminate, and so forth). Provide him with resources and create all the necessary conditions for him. And do not forget about incentives: if, for example, he puts an installation into operation--a bonus for the entire group.

For a true boaster and idler there is nothing more terrible than work. And especially with concrete deadlines! He will inevitably fail to fulfill the assignment. Thus the demagogue deprives the entire group of workers of their bonus and comes under pressure from the indignant collective. Usually having been under this pressure he quietly leaves the enterprise or calms down.

**Remark:** If the complainer suddenly fulfills the assignment it means that he has nothing to do with the category of demagogue-idlers and his letters deserve attention.

#### The Fourth Piece of Advice: Rely on Science!

As we know, each year enterprises engage more actively in agricultural work. Mass trips to the fields leave the plants and factories empty. Gloomy directors wander around the area counting the number of people who are left. The plan is failing. The deputy ministers is making threatening telephone calls and there is nobody to start up block EM-317. The problem is old and eternally young: one can hardly expect rural workers to refuse help from city dwellers in the near future.

The managers of enterprises resort to petty tricks: they repair kolkhoz equipment, they forget about the shortage, but each year it becomes harder to break even. The solution to the problem, in our opinion, is to create at the plant a scientific research institute for 400-500 people. Scientists are good in that they are genetically inclined toward agricultural work. Moreover, their activity involves thinking and it is possible to think while they are cultivating the fields.

Of course, to push through the idea of having a scientific research institute at the plant is a troublesome problem. Place your hopes in the fact that without your own scientific base you will never reach the world level. Gain

the support of some academician. In a word, prove your point! And if they understand you agriculture will receive several hundred proletarians of mental labor and your plant will have the opportunity to fulfill its plan in peace.

Fifth Piece of Advice: Look for New Forms of Contact With Your Superiors!

A couple of years ago now a plant director when receiving his superiors knew how and with what to entertain guests. The most important issues were resolved not in offices, but in the lap of nature, in saunas, in cozy restaurants and other places for informal communication. Meetings took place in the warm atmosphere of hot steam and strong drinks. As a rule, the highly placed guests did not arrive with empty hands, they vaguely remembered the landing of the aircraft, but during the first 40 days they paid for what they got.

When the director set out for the capital he also knew what gifts to give to whom. For example, he could bring the necessary bureaucrat a cigarette lighter in the form of a naked sex bomb that was manufactured by the plant craftsman. Or a knight in armor with cognac under his helmet and a glass under his arm. Now nothing is said about presents. People do not even bring them since they are afraid they will be misunderstood.

There is also the sobering ukase. On the one hand, the directors are glad: there is no need to poison themselves with alcohol and make regular expenditures. On the other hand, it has become more difficult to work. That which was previously resolved during an evening now takes months. They are no longer so willing to stamp a resolution: "Agreed!" The incentives have disappeared but the reflex remains.

We think that it is a little too early to develop informal relations. Unfortunately, there is nothing to replace them with. In our opinion, the contact should be developed in two directions: 1) sports and 2) spiritual.

The simplest variant is to jog with the supervisors through some random place and then a steam bath. If the guest prefers prestigious kinds of sports, arrange to have a tennis court, a yacht or snow skis for his arrival. To be sure, snow skis require mountains. But if there are none nearby do not be disturbed. The approximate cost of building a hill 300 meters high with a lighted run, a lift and a steam bath at the bottom does not exceed a half million rubles. A good plant can create such a mountain.

A couple of words about the spiritual area. A visit to the theater with a subsequent discussion of the performance in that same steambath has a very good effect on ministry representatives. The theater can be arranged on a shared basis with other enterprises. It is also a good idea to organize an excursion to the country place where a famous writer or composer was born, with a subsequent trip to the steambath.

Supervisors do not like museums or art galleries as much. But if you do go to these, do not forget the steambath on the way back.

Note: in certain cases individual higher-ups can categorically refuse sports and cultural measures. Then all that is left is the simple steambath. Equip it with a videocassette recorder and arrange a showing of the best films from world cinematography.

Our next piece of advice is of a general nature but it would be useful for any director to follow it:

Under no circumstances can you fall into depression!

As one great optimist who wishes to remain unknown said, "The situation with the economy is excellent but not hopeless!"

In conclusion, we hope that all those in attendance will live until that remarkable time when the economic mechanism runs like clockwork and all the aforementioned advice loses its meaning.

Thank you for your attention!

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SCIENTIFIC SUPPLY SYSTEM PARODIED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in  
Russian No 3, Mar 87 pp 188-190

[Article by Saveliy Tsypin (Kharkov): "Shortage"]

[Text] "Again zero effect!" Junior scientific associate Timoshin angrily hurled the perforated tape, which curls around his feet like a snake. "And they have made dozens of various editions!"

"Can you imagine what this means? A disruption of the work on the theme!" The boss straddles a high laboratory stool. "Perhaps you need something? That Mossbauer in the experiment that won him the Nobel Prize made do with an old gramophone. And we are able to provide you with any of the latest instruments. Perhaps you need some other reagent?"

"The only thing I did not try was to mix in borate. My last hope. It worked for them--I read it in SCIENTIFIC REVIEW."

"Is there a shortage of it?"

"In general, yes, but I think that one can get it."

In the morning Timoshin went through issue after issue, lowering his voice to a baritone to give the appearance of solidity, convincing people that borate is extremely necessary for important scientific work. Incidentally, it really is. Everywhere people answer that this is the first time they have heard of it. But the junior scientific associate persistently stays on the telephone and in the end he gets on its track. The next day he is sitting in the sales division of the Khiprom Combine.

"Hmm, borate...." the supply agent looks at his visitor with an evaluating gaze. "But what do you people in science have to give in return? You are probably poor as churchmice. For instance, how much sheet iron do you have? Well just this once we will take a check."

Timoshin returns to the institute. The head bookkeeper gives him the checkbook with trembling hands. Of course it is clear that iron is out of the question. At Khiprom he cannot find this same supply worker. Instead of him

there is a young, clean-shaven man with hair sticking out of his head like a clothes brush.

"Borate? What do you need that for? Andrey Fillipovich said nothing to me about this."

"That cannot be!" the junior scientific associate is disturbed. "I made arrangements with him."

In his eyes one could see honesty that did not allow the slightest doubt. The young man placed his stamp on the order and Timoshin went to the bookkeeping office. He tugged at the door for a long time until a female hand came out of it and angrily wrote on the tablet, "Clients are received on Thursdays at 2 p.m."

The junior scientific associate came back on the next Thursday at 2 p.m.

"You want borate?" the bookkeeper took his document. "Five kilograms. You have the stamps. Give me your authorization. No? Well, you cannot get it today anyway." She returned to her work. "They are sending some fools here."

A week later Timoshin arrived with his authorization. He fills it out and goes to the directors for their signature to withdraw the supplies. His heart is beating--his work is almost saved.

"And you, comrade, are from what organization?" The deputy director studies the form. "Aha, I see. So...and do you know that your institution is not part of our department?"

"Well, so what?"

"What is means is that we do not have the right to waste a valuable reagent outside our organization. Categorically. And you--are not one of us."

The junior scientific associate freezes inside, as though he had swallowed liquid nitrogen.

"Well, young man, not everything in life is as complicated as it seems at first," the deputy consoles him. "The problem can be solved."

Hope returns to Timoshin.

"It is no big deal," continues the deputy. "You must start early, about a year to a year and a half, and include the delivery of borate in the plan for orders from your ministry. It will send it to the main supply administration and they will send an order to our ministry, and it, in turn, through the main supply administration and the territorial administration will send a directive to us. And you--with your funds. Then, please, come and get it. If, of course, our plan is threatened we will supply our own people first. That is how it is, young man, that is the policy! I wish you success!"...

Timoshin dragged himself along the corridor to the exit. What could he do? Of course he could scrape together some figures for the report and change the curve a little bit--at least for his doctoral--but yet the client needs a concrete result....

He pushed a door open and ended up on the other side of the office in the plant courtyard. Deep in the courtyard the shops could be seen with equipment rusting nearby them. Under his feet there was some dark mass. A layer of this powder grew into a mound something like a sand dune. And all around him the roofs of shops and the leaves of stunted trees were covered with a brown deposit.

The junior scientific associate took a bit of the powder and rubbed it on his hand.... After looking around, he took a plastic bag from his briefcase and quickly put some of the powder in it. The plant workers were scurrying everywhere but they paid no attention to him. Having noticed a heap of empty bags near the wall, Timoshin selected the one with the fewest holes and filled it half full. Then, putting his sack on his back, he calmly slipped through a hole in the fence and made his way toward his bus stop.

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